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HISTORICAL ANALYSIS OF C-130E RESOURCES

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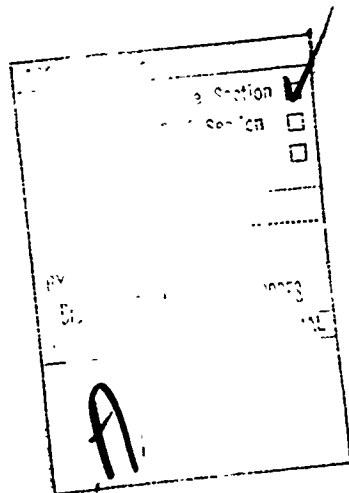
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costly to obtain. The resulting data bank was developed from existing Air Force data samples. Where only partial data was located, statistical methods were developed and applied to generate the missing data.

Analyses were accomplished against seven (7) basic data categories, namely: (a) operations, (b) maintenance, (c) reliability, (d) safety, (e) human resources, (f) material resources, and (g) cost data. All data categories addressed, whenever possible, the 15 year period or life cycle of the C-130E weapon system (1962 through 1976).

This document is the second of a series of five Boeing Technical Reports emanating from this study, namely:

AFHRL-TR-77-40	C-130E Hercules Aircraft: Review of Published Literature and Structured Interviews (Available to U.S. Government Agencies only.)
AFHRL-TR-77-48	Historical Analysis of C-130E Resources
AFHRL-TR-77-46	Life Cycle Cost of C-130E Weapon System
AFHRL-TR-77-64(I)	Historical Analysis Methodology Resource Utilization
AFHRL-TR-77-64(II)	Historical Task Analysis of C-130E Personnel



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SUMMARY

Resources are expended to operate and support a weapon system. To be able to analyze the resources used, data must be gathered from diverse sources. Once the resource utilization is known, actions can be taken to reduce the resource requirements through modification of the system, the mission or the operating policy.

This report describes an analysis of available Air Force data on the utilization of resources for the C-130E Hercules aircraft. This report is the second of a series of four which will document this research study. This study is Phase I of a four-phase project. The project, "Advanced System for Human Resources Support of Weapon System Development," is designed to demonstrate the technical feasibility of a method of reducing the cost of ownership of a new weapon system to the Air Force.

PROBLEM

To analyze the resource utilization of a weapon system requires the establishment of a massive data base. The information necessary to complete the data base must be acquired from many different sources. The problem addressed was to establish a methodology for collecting resource utilization data for an operational weapon system.

APPROACH

The approach involved two tasks. The first was to search, locate, acquire, screen, and evaluate all Air Force data concerning the utilization of resources by the C-130E Hercules aircraft during the past fifteen years (1962 through 1976). The second task was to collate and analyze the data.

Both human and material resources were considered. Human resources include the people required to perform support functions. The people are described according to Air Force specialty code (AFSC), experience level, and rank. Material resources include, for example, spares, ground support equipment and fuel.

Every known Air Force agency (including operational units) that might have C-130E historical data was identified and contacted. Special data source summary forms were developed and completed for each organization. The data were computerized along with the documentation (published literature) that was collected during an earlier task (reference AFHRL-TR-77-40).

All data acquired for the study were indexed and analyzed into seven major categories; i.e.: a) operations, b) maintenance, c) reliability, d) safety, e) human resources, f) material resources, and g) cost. Where total data were not available, statistical normalizing techniques were applied to the available data slices as the means of filling in missing years. This method was especially needed in estimating human resources, material resources and costs.

DIFFICULTIES ENCOUNTERED

Special difficulties encountered in conducting this study will be stated because they impact on future efforts. Such difficulties were:

1. Some input data were fragmented and/or discontinuous. This forced the formulation of scattered, discontinuous analytical results.
2. In some cases, data requested early in the program either were not made available or arrived late. This precluded quantitative compilation of meaningful, accurate historical profiles in some areas.
3. Conflicting data (e.g., number of possessed C-130E aircraft per year from 1962 through 1976), obviated or attenuated analytical progress. In some cases these conflicts could not be satisfactorily resolved.
4. The general policy of USAF agencies to retain historical data files, for short time periods, as well as not having a single weapon system data repository had a profound effect on analytical results. Extrapolative and interpolative analytical results are always "second best" when attempting to evolve quantitative weapon system histories.

Most of the difficulties encountered were resolved through extensive conference telephone conversations with key personnel or by engineering judgment. Data not available through a principal data agency(ies) were acquired through other sources. This did not always represent a fully satisfactory solution, but did significantly aid in filling large data voids. No solution was provided concerning the USAF need to maintain at least one centralized data repository.

RESULTS

The magnitude of findings emanating from this study precludes issuance of a complete summary of key findings. Some of the more salient outcomes include:

1. Fifteen year profiles of C-130E organizational and intermediate troubleshooting maintenance manhours per 1,000 flight hours encompassing 29 flight subsystems were quantified.
2. Corrective maintenance task numbers and proportional task distributions encompassing the 29 C-130E flight subsystems were plotted for each year of the 1962 through 1976 reporting period.
3. Organizational and intermediate tasks per sortie encompassing the periods of 1965 through 1976 (12 years) were derived.
4. Corrective organizational and intermediate maintenance hours and proportional distribution patterns per 1,000 flight hours (1962 through 1976) were analyzed and derived.
5. Proportional distributions were developed of organizational and intermediate maintenance troubleshooting manhours (1962 through 1976).
6. A determination was made of the numbers of organizational and intermediate "repair only" tasks per 1,000 flight hours and the associated proportional distributions within the 29 subsystems (1962 through 1976).
7. Organizational maintenance remove and install tasks per 1,000 flight hours profiles were specified.
8. C-130E flight and maintenance personnel manpower estimates encompassing 15 years were prepared. This includes profiles of maintenance personnel assigned to 64 work centers contained within the Deputy Commander for maintenance organizations, Organizational Maintenance Squadrons, Field Maintenance Squadrons and Avionics Maintenance Squadrons.
9. Near term Field Training Detachment (FTD) histories (27 months) of numbers of graduates per month as well as training hours per month per FTD were defined. This enabled development of estimated FTD training histories for the period of 1962 through 1976.

10. Complete 15 year historical profiles were developed of Time Compliance Technical Order (TCTO) kits installed into 308 C-130E aircraft. This included total number of kits per aircraft at the intermediate and depot maintenance echelons as well as total hour expended per year when installing kits at the two maintenance echelons. Composite frequency polygon distributions encompassing intermediate and depot TCTO kits and expended hours depict retrofit patterns.

Other results include the development of discrete (quantitative) 15 year profiles of educational levels achieved by three officer AFS's and 30 enlisted AFS's. Achieved educational trends observed during data analyses enabled formulation of the following conclusions:

1. Achieved educational levels of officer and enlisted personnel climbed dramatically between the years of 1962 through 1976.
2. No non-high school graduate Air Force personnel are shown as officer rated (AFS 4016,4024, and 4096) as of June 1976.
3. More officers and enlisted personnel entered college during each ensuing year between 1962 through 1976.
4. Achieved educational levels of officers are significantly greater than for enlisted personnel.
5. Selective criteria implemented by USAF recruiting centers appear to be responsible for marked reductions in enlisted personnel not having high school diplomas or equivalent.

CONCLUSION

In spite of the obstacles, a comprehensive 15 year data base for the C-130E has been obtained, organized, and analyzed. Of future use are both the data base and the methodology used for its development. The data base establishes a reasonable baseline of information that could be used in the initial planning of a new weapon system of this type. The information indicates the high resource requirements and possible design changes that could reduce these requirements.

The basic methodology can be used to provide such a historical baseline for any weapon system. It indicates the type and sources of available information, the type of analyses that can be made, and the type of useful information that can be formulated.

PREFACE

This report was prepared by the Boeing Aerospace Company Logistics Support and Services (ILS), Seattle, Washington, under USAF Contract F33615-76-C-0062. This contract was initiated under work unit 19590001. Work was accomplished under the direction of the Advanced Systems Division of the Air Force Human Resources Laboratory, Air Force Systems Command with Major Duncan L. Dieterly as the project engineer.

Data emanating from this contract, "Historical Analysis of C-130E Life Cycle Costs", will be reported in a series of four AFHRL technical reports. The total study provides a unique body of data, which for the first time, attempts to document the actual life cycle cost of a weapon system.

Boeing Aerospace program technical leader was George R. Herrold. Principal program analysts were Frank D. Brown, Donald E. Griswold, Donald K. Hindes, Gary A. Walker and David H. Wilson. Boeing's contract report number is D180-19797-4. This approved technical report (TR) includes work performed from 29 June 1976 through 20 May 1977.

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I - INTRODUCTION

PURPOSE:

The Air Force must be able to meet its specified mission requirements. To meet these requirements a spectrum of weapon systems must be designed, produced, and maintained. As the cost of sophisticated technology spirals upward, the Air Force planner must be able to maximize performance while minimizing cost. The crucial limiting parameter placed upon the weapon system spectrum is cost. Currently, it is popular to advocate different methods for controlling cost; such as cost of ownership and life cycle cost (LCC). All costing technologies have three aspects in common: The value of a weapon system is measured in dollars; the computation of the value is at a fixed point in time; and the function of costing the system is dependent upon the definition of variables to be included in the cost.

All too frequently, after a discrete set of variables has been agreed upon, as those that will generate the desired cost, it is determined that no information is available upon which to establish the dollar value of a variable; therefore, the variable is excluded or treated as a constant. This is especially evident in those areas not directly associated with weapon system acquisition. This dilemma severely hampers the computation of the desired cost and reduces the probability of making the optimum decision. In order to redress the deficiency, the Advanced Systems Division of AFHRL has attempted to identify, develop and demonstrate a series of methods to allow for the inclusion of these variables in cost computations.

Through initial research efforts it had been established that these variables could be quantified and included in cost analysis. During the same time frame it was realized that the final cost of a weapon system was dependent upon five major interacting factors: (See Figure 1) a) system design, b) human resources, c) material resources, d) performance required and e) operation of the system. In order to impact the cost of a system, a change would be necessary in one of the factors. However, a change in any factor will have some impact on the others. To adequately analyze the cost of a weapon system, a capability to model or simulate all five factors is necessary. As can be seen in the diagram, the life cycle cost of any weapon system is dependent upon the state of not only the design but the other factors. Any change in a factor will result in a new state and resultant LCC estimate. State "A" will result in a different LCC than state "B". Project 1959 "Advanced System for Human Resources Support of Weapon System Development," is the first effort to integrate these factors in a single analysis technique that could be used to evaluate the full ramifications of weapon system design, human resources, material resources, performance, and operations.

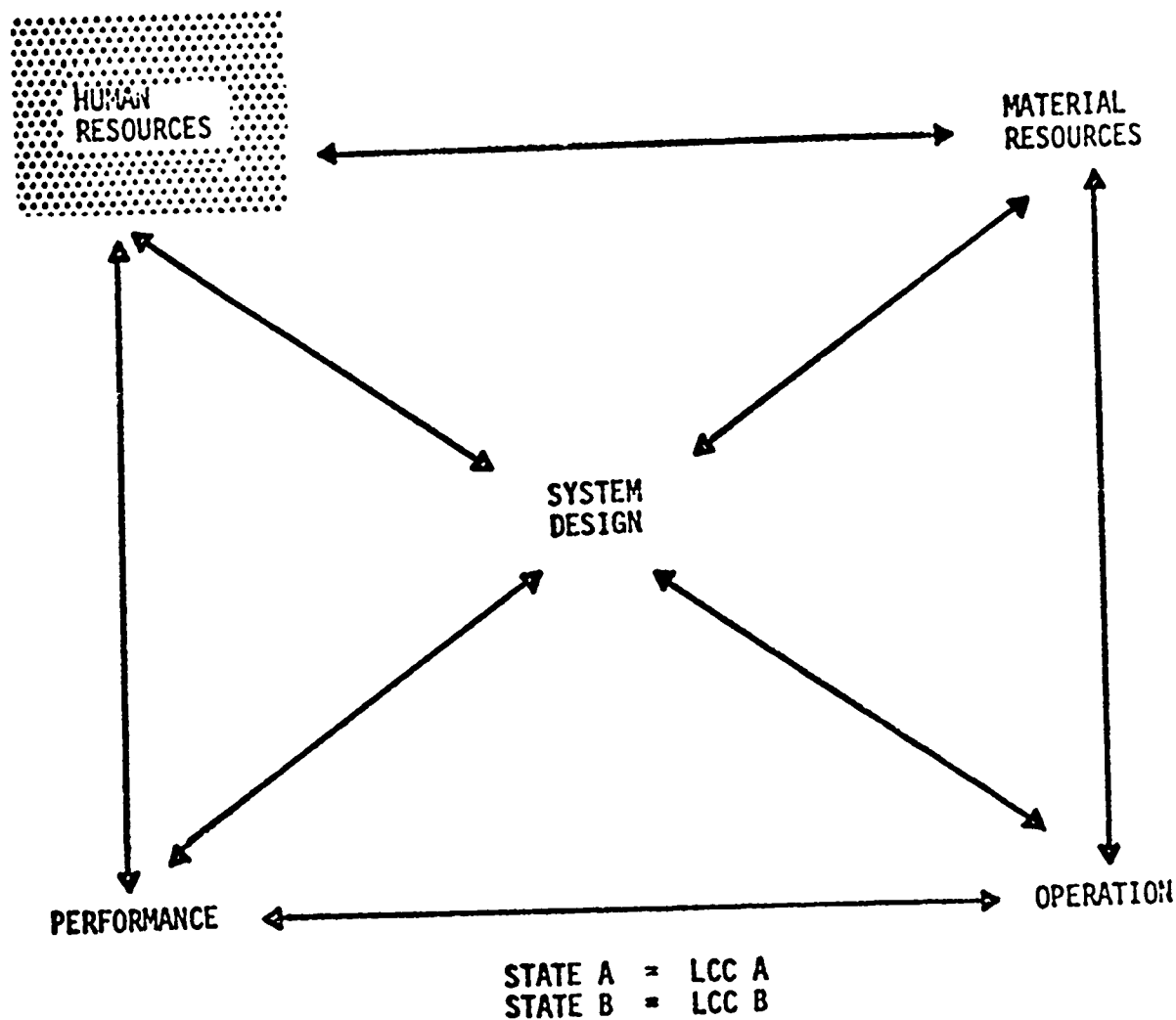


Figure 1 MAJOR INTERACTING FACTORS

PROJECT 1959 - PURPOSE AND GOALS:

The purpose of Project 1959 is to demonstrate the technical feasibility of a method for reducing the cost of ownership to the Air Force of new weapon systems. The cost expended to maintain certain human resource configurations is a major contributor to operations and support costs. Consequently, programs aimed at the reduction of human resource parameter costs can have a significant impact on the Air Force budget.

In Project 1959 the advanced medium STOL transport (AMST) being developed by the Air Force will be the test case. Existing state-of-the-art technology in training, technical data, and manpower simulation

techniques to reduce the human resource support cost of the system will be applied. This project will provide for the inclusion of human resources parameter costs in engineering design studies, forecasting and controlling manpower requirements through the application of systems analysis and computer modeling techniques, improved technical data for maintenance personnel and early identification of training requirements and advanced training techniques appropriate for the new system. These techniques will be modified as required and integrated to provide a comprehensive approach to the development of a cost effective personnel support system for a new weapon system. The project will be completed in four phases.

This project is directed at reducing the personnel support cost of new systems. Research efforts under the project will demonstrate a technology for controlling the personnel, training, and manpower requirements of new systems without adversely affecting either operational readiness or system effectiveness. Application of this technology will lead to significant reductions in life cycle costs of new systems.

Although this effort will utilize a particular weapon system to demonstrate the technology for controlling personnel costs, this technology could be generalized to a wide spectrum of new systems being developed in the Air Force and other military services. In general, the technology may be used for any type of new equipment being designed and developed for whatever purpose: military, government, or industrial.

PHASE I, PROJECT 1959 - HISTORICAL ANALYSIS OF C-130E LIFE CYCLE COSTS:

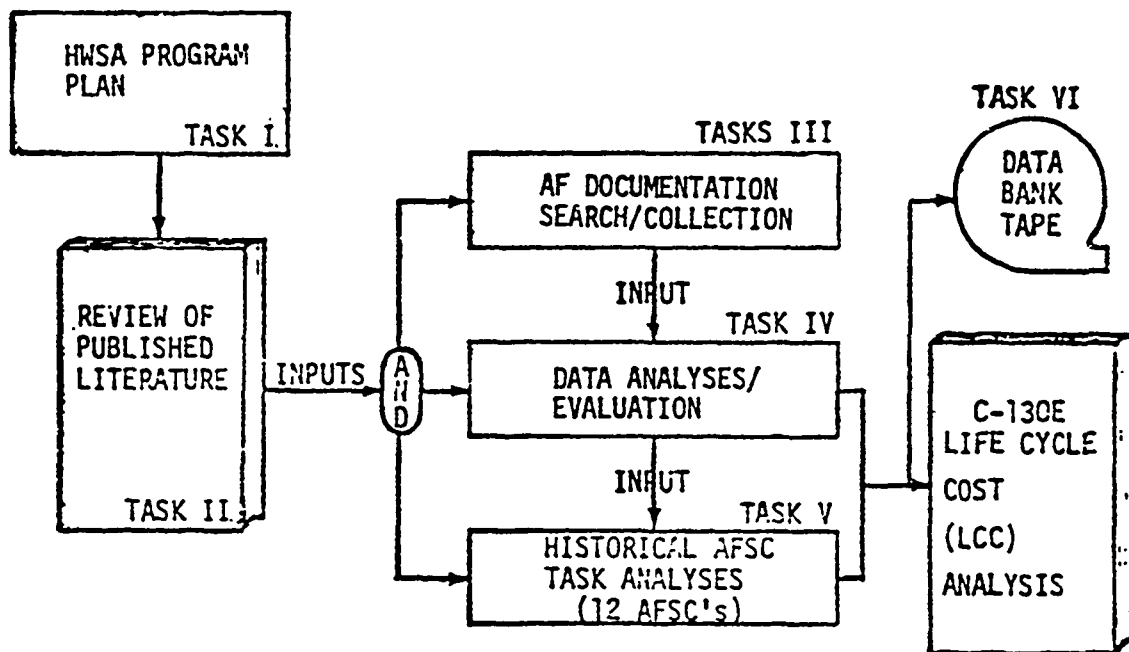
The purpose of this effort is to establish a historical analysis of resource utilization of the C-130E Hercules. The analysis will include both human and material resource utilization as indicated from available records. In accomplishing this analysis a methodology will be established to allow for analysis of other weapon systems. This methodology will include type of information, possible sources, credibility of data, difficulty in reducing data and cost of obtaining the data. It is anticipated that most historical data is lost through the demand for current data to solve operational problems. In addition, large amounts of data may be available in such a form as to be prohibitive to collect and process for a computerized system.

Traditionally, when a weapon system is developing through the acquisition process, estimates are made as to the resources necessary to support that weapon system. After the system enters the Air Force inventory, the control of the human and material resources crosses several functions and commands. Seldom are the initial estimates verified for all resources controlled by one level of management. For example, the provisioning of spares becomes a prime concern of Air Force Logistics Command, while the manpower requirements are a major concern of the using Command. Therefore, once a weapon system is operational, no single point manager is responsible for the human and material support of that system. Multiple management generates a

considerable amount of information and information systems to track and manage aspects of the weapon system. These sources of information are dispersed and in various configurations. To attempt to evaluate a system in terms of life cycle utilization or reduce that to a life cycle cost is a complex task. This phase of Project 1959 is designed to address this problem. This phase has been planned to be accomplished in six tasks.

DESCRIPTION OF TASKS

The sequence of the six major tasks are interrelated as shown by the arrows in Figure 2. Where appropriate, the tasks are performed in parallel.



**Figure 2 HISTORICAL WEAPON SYSTEMS ANALYSIS (HWSA)
TASK FLOW DIAGRAM**

Following is a brief overview of the actual work required by each of the six major tasks:

- Task I Develop Contract Performance Plan
 Identify Data Sources and Agencies to be Contacted.
 Prepare Study Schedule and Milestones.
 Complete Contract Performance Plan.
 Kickoff Meeting.

- Task II Historical Data Review
Identify, Obtain, and Analyze C-130 (C-130E Subset where possible) Research and Descriptive Studies Documentation.
Conduct Structured Interviews.
Publish Formal Technical Report.
- Task III Air Force Documentation Search and Collection
Identify and Screen Available C-130E Data Files.
Obtain Applicable Experience Data.
Catalogue Data Files.
- Task IV Data Analysis
Evaluate Data.
Develop Descriptive Statistical Summaries.
Publish Formal Technical Report.
- Task V Historical Task Analysis
Select Skills
Identify Tasks for Each Skill.
Develop Task Parameters.
- Task VI Life-Cycle Cost Analysis
Coordinate LCC Model Structure and Elements.
Perform LCC Analysis.
Generalize LCC Approach.
Publish Formal Technical Report (Final).
Develop General Data Bank Computer Tape.

Tasks III and IV were completed in April 1977 and are reported in this document. The final technical report contains a complete review of the entire study.

SCOPE

The scope of Tasks III and IV (as shown above) was focused on the C-130E Hercules aircraft. The study was further limited to Air Force data collection systems/documentation within the calendar years of 1962 through 1976 (15 years). Figure 2 provides an illustrative relationship of these two tasks to other tasks being accomplished under this contract.

GENERALIZED DATA COLLECTION AND ANALYSES METHODOLOGY

Data Search and Collection Methodology

Data search and acquisition techniques, utilized by investigators of this study are summarized in Figure 3. Subsequent to definition of the seven data categories defined in Figure 3, a thorough review/assessment of C-130E data histories present within extant historical repositories was completed. Profiles of adequacy and completeness of historical data were developed. Concomitant data weaknesses

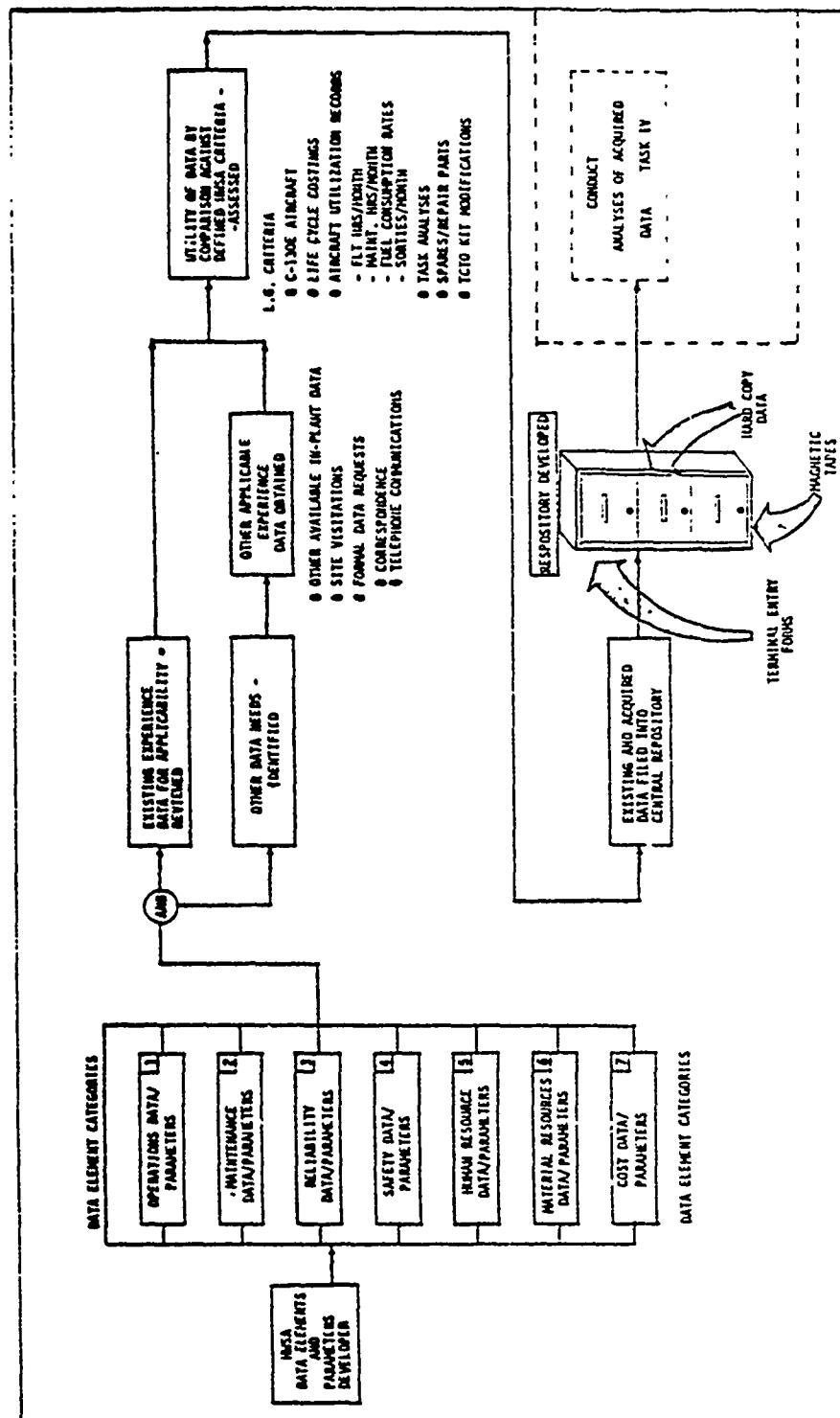


FIGURE 3 TASK III - AIR FORCE DOCUMENTATION SEARCH AND COLLECTION METHODOLOGY (IES)

and/or additional data needs were then tabulated. Then action was initiated whereby additional C-130E historical data were acquired. This was accomplished via: a) search for data within extant Boeing Libraries and other data centers, b) submittal of formal correspondence to appropriate USAF agencies, and c) site visitations to various Air Force Commands and bases. The relative merit or applicability of existing and newly acquired data was assessed by all investigators, against a set of predefined criteria. This included, but was not limited to, such selection questions as: a) Do the data apply to the C-130E weapon system?, b) Are the data derived from direct C-130 operations and maintenance reporting systems?, c) Are they continuous data?, d) Do they cover the seven data element categories delineated in Figure 3?, e) Are the data quantitative or qualitative in nature?, and f) Will the data enable costing for the "Life Cycle Cost Analyses," to be accomplished later? Data selected for application to this study were logged and filed into a central repository. This repository included the filing of all hard copy data as well as those data contained on microfiche, magnetic tape and slide film. The resulting data contained within the central repository served as the "data pool" for the conduct of the Data Analyses (Task IV).

Data Analyses Methodology(ies)

Figure 4 provides an illustrative compendium of the six basic analytical progressions followed, when analyzing the C-130E historical data contained within the central data repository. Initial analysis required the separation and collation of data into qualitative (subjective) and quantitative categories. This was accomplished for each of the seven data categories (e.g., operations data, human resource data, maintenance, etc.) itemized under blocks 2 and 3 of Figure 4. Subsequent to this mechanical sorting procedure, data matrices were prepared against each data element. Data summary texts were prepared in series with ten discrete evaluative steps taken during the block 4 analytical phase. Descriptive and statistical summaries of each of the seven data elements were then prepared and compiled. These data banks, i.e., data compilations, matrices, tables, and figures for each data element (step 6), served as the basis upon which this report was written.

SUMMARY

This report is the second of a series of four reports to be completed under this study. It describes the work accomplished during Tasks III and IV of a six task study to historically analyze the resource utilization of the C-130E Hercules aircraft.

The approach to Task III was to identify, contact, and where possible, collect applicable data from every Air Force agency that conceivably might have current and/or historical data files/data repositories, that could contribute to determining the human and material resources utilized in direct support of the Air Force C-130E Hercules aircraft during the aircraft's operational years (1962 through 1976).

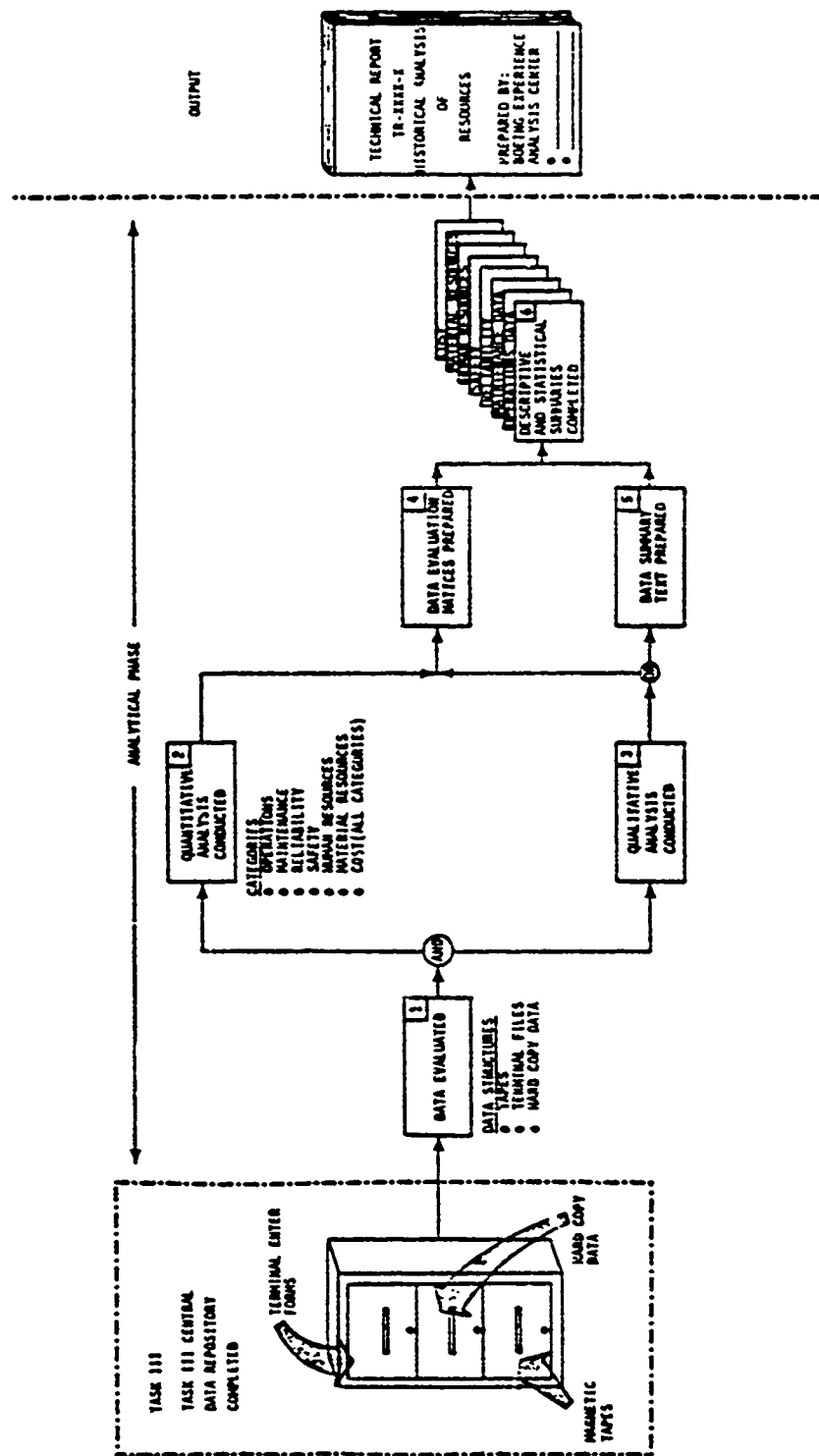


FIGURE 4 TASK IV - HISTORICAL WEAPON SYSTEMS DATA ANALYSES METHODOLOGY(IES)

The approach in Task IV was to collate, analyze and prepare historical data (when data histories permitted) into chronological queues. Development of quantitatively derived results, when placed in queues, enabled investigators to formulate conclusions, trends and problem statements about the C-130E weapon system. Historical data voids were made apparent via this analytical technique.

Results acquired during this task serve as the quantitative foundation upon which discrete life cycle costing (Task VI - of this study) of C-130E weapon system operations will be accomplished. Quantitative data baselines were formulated in the following data categories: a) operations, b) maintenance, c) reliability, d) safety, e) human resources, f) material resources, and g) cost.

II - AIR FORCE DOCUMENTATION SEARCH AND COLLECTION

A thorough search and screening for usable data within existing Air Force data files was conducted. The identification of existing Air Force C-130E data files was accomplished basically following the steps as shown in Figure 5.

An initial list of data elements and parameters were developed along with the potential data source and location. The initial list of data elements and parameters contained the baseline information required to backfill 15 years of Air Force C-130E historical resources utilization data. This initial set of data elements/parameters was then screened and their locations were established. Detail descriptions of the data sources and interfaces can be found in references 1 and 2. This list was expanded as other data sources were identified that could contribute to the overall study objectives as discussed below.

OBTAIN APPLICABLE EXPERIENCE DATA

The data collection process for this study required screening and processing of products from many sources. Three basic approaches were used to gather the data.

First, available in-house, previously obtained C-130E data from applicable Air Force data files was screened;

Second, a formal request letter was forwarded to organizations that were known to be data repositories of applicable data files/information; and,

Third, during scheduled site visits, specific offices were visited and knowledgeable individuals were interviewed to identify additional data files/information.

Table A-1, Appendix A, contains a list of the actual sources and agencies that were contacted and the type of applicable information that was obtained and screened. Reflected in the table are agency, location, office symbol(s) function, type, and quantity of data obtained. The type of data column identifies: a) published literature that was used on a prior task which is discussed in detail in AFHRL-TR-77-40, and b) Air Force data systems and files which feed later efforts.

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- ▷ AFLC/AFSC Pamphlet 400-11, "Reliability and Maintainability Data Sources."
 - ▷ AFLC Pamphlet 171-79, "Data Systems Assignments, Status, and Interface."

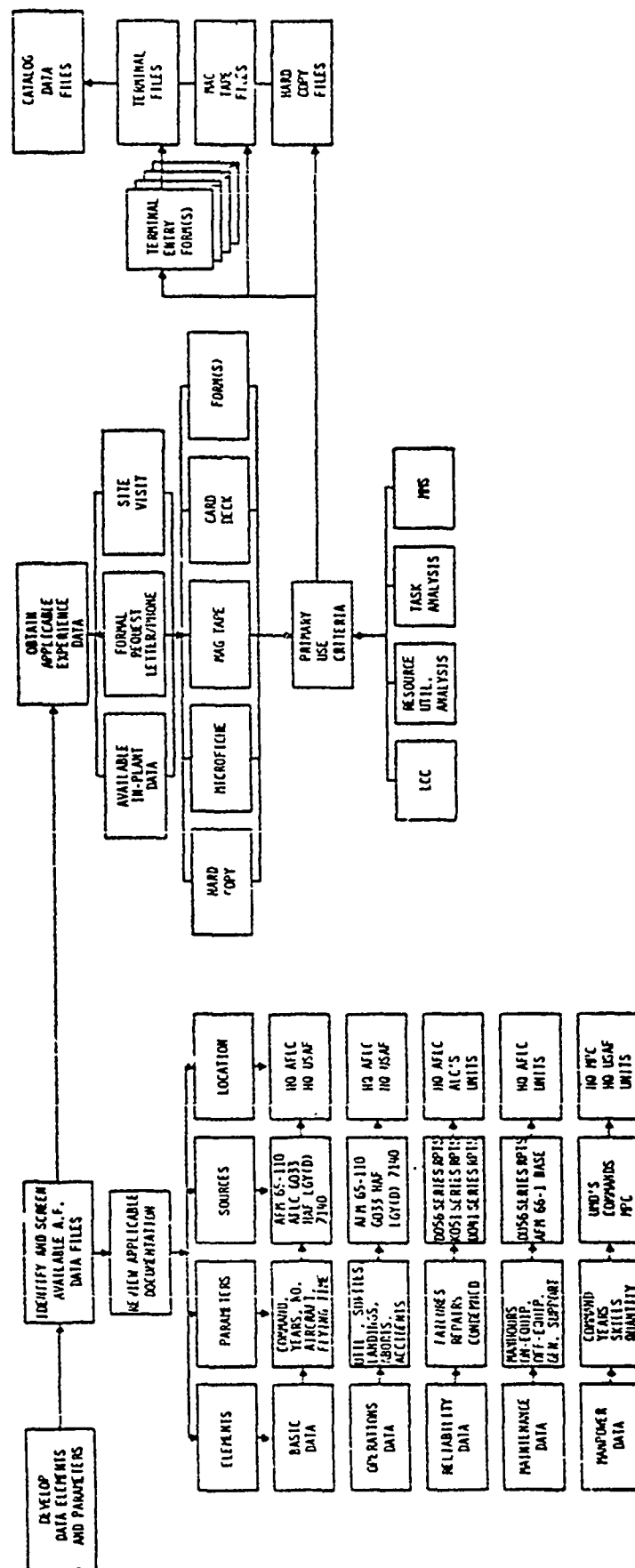


FIGURE 5 AIR FORCE DOCUMENTATION SEARCH AND COLLECTION FLOW DIAGRAM

The "quantity obtained" columns in Table A-1, Appendix A, show the number of reports or records, if the data is computer oriented, and the years covered by the data obtained.

The actual analysis of the information obtained is described later in detail. However, in attempting to accumulate the C-130E historical data, the following problems were significant enough to warrant being highlighted here to assist in the planning of future efforts. They are similar to many of the problems encountered in acquiring the published literature for the earlier tasks.

(1) There is no one data repository/system that provides visibility into weapon system historical documentation.

(2) It becomes necessary to first identify all of the various repositories and then to select, collect, and piece together the information from each for the specific weapon system and/or data element.

(3) Information that must be ordered from some data repositories requires extremely long lead time prior to actual information delivery. In some cases, even after repeated requests for the data, the data were not furnished thereby leaving gaps and inconsistencies which required normalization to obtain acceptable study results.

(4) Some data repositories do not have large mechanized systems and have only one document on file (usually hard copy). This results in a time-consuming effort for review and reproduction or frequently reduces or eliminates the possibility of acquiring needed information.

(5) Data repositories may have copious documents, listings, or reports that can be borrowed. They require either laborious data extraction, or disassembly - reproduction - assembly and return to the home office which requires significant manhours for accomplishment.

(6) Obtaining need-to-know and/or proper management level attention can be very time-consuming, particularly in situations where organizations or individuals, with needed information, will not release the information without "proper" management approval although "need-to-know" has been established.

(7) The predominate USAF policy of retaining historical data for only short durations (6 to 24 months) or as in most cases (6 to 12 months) prior to purge, has had a profound effect on the ability to get continuous historical information beyond near term periods.

(8) Changes in reporting systems as to format, deletion of key data elements, or in some cases the total elimination of the reporting system causes inconsistencies and data gaps for this type of study. This problem has added emphasis if the data were computer generated or are to be processed by a computer. To compensate, programs must be written to accommodate various input/output record styles, which is time-consuming and difficult, but necessary to maintain consistency.

(9) Computerized data on magnetic tape, the most desirable form for large quantities or years of data, can cause long delays and excessive computer time when intended data elements that are agreed to are not on the tape when received. Also, allowance must be made for computerized data sets which do not track the documented technical order format or which are not compatible with the processing equipment of the organization doing the analysis. This requires recoordination and reprocessing of the information.

(10) The variance in data systems and repositories queried, to obtain the many types of data required for the study, presented a unique situation. Depending on the data system or repository, each has its own "in-house peculiar language" that must be used when discussing and/or retrieving the information in that system. This peculiar language barrier varied from systems that could be queried by weapon system, to systems that could only be queried by specific national stock number (NSN) for a given type of equipment or location. Subsequently, it becomes extremely time-consuming to track status and consumption of specific items.

DATA CATALOGING:

The data was obtained from many different sources as described above and was received in five different forms:

<u>Form of Data Received</u>	<u>Percent</u>
1. Hard copy (listings/documents)	20%
2. Microfiche	20%
3. Magnetic tape	50%
4. Card deck	5%
5. Air Force report forms	5%

The historical data acquired were screened for cataloging, utilizing the "yes-no" decision gates (criteria) as depicted in Figure B-1, Appendix B. The Historical Weapon System Analysis (HWSA) Terminal Entry Form as shown in Figure B-2, Appendix B, was completed on all data. The data were then cataloged into a HWSA master file via a computer terminal system. These entries were used as input to existing Boeing-developed computer programs that were modified to meet the criteria for this study. These modified programs, in turn, provided various outputs or sorts of the information that allowed the investigators to screen the data by particular area of interest during the data analysis task.

SUMMARY

This section describes the process utilized to search and collect Air Force documentation pertaining to the C-130E Hercules aircraft resources utilization (human and material) historically over the past 15 years (1962-1976). It describes: a) Available data files/information identification and screening process, b) applicable data

sources and agencies, c) data collection and review methodology, d) data cataloging for analysis, and e) results of the overall Air Force documentation search and collection effort, including problems encountered during performance of the task.

Most of the difficulties encountered during this study were resolved through extensive planning of trip schedules, developing pre-trip focal points at intended target agencies, and the submittal of pre-trip letters of introduction and justification prior to initiating field trips.

Problems encountered because of fragmented or non-existent historical data beyond 6 or 24 months could not be resolved. The general USAF policy concerning retention of historical data should be re-examined in the light of today's technology with microfilm and microfiche. The current practice of purging entire histories of data, without maintaining some centralized data area/locus precludes total acquisition of actual life cycle profile data (i.e., cost, engineering, supply support, etc.). As a result, the information identification and collection process becomes extremely awkward and time-consuming in both manpower and elapsed time, and requires estimating techniques (such as a data normalizing procedure) to fill the gaps. The long lead time to acquire data should also be considered when planning future similar efforts.

III - DATA ANALYSIS

The information identified and collected in Task II (published literature) and Task III (Air Force documentation) was edited and screened for the analysis and evaluation process. The evaluation consisted of three steps: a) development of a data evaluation matrix that identifies the various information source(s) and evaluates the type of information available, b) development of applicable techniques and actual computer processing of the data collected, and c) statistical analysis and presentation of the applicable information. These steps are depicted in Figure 6.

DATA EVALUATION MATRIX

The initial step was to develop a data evaluation matrix by analyzing and screening the data by elements, into seven major categories; i.e., a) operations, b) maintenance, c) reliability, d) safety; e) human resources, f) material resources, and g) cost. A pedigree for each element within the major categories was then formed consisting of source/agency, location, type of data/data files, and data quantity/quality as shown in the data evaluation matrix, Table 1. In addition to the identification/availability of the various data sources and elements, the matrix serves as an index of the major categories/elements of data collected and used in performing the tasks of this study program.

COMPUTER PROCESSING

To effectively and efficiently screen, analyze and portray the vast amounts of data records/elements collected, large scale computers and on-line remote terminal processing was utilized. Where practical, existing software was modified to meet the study requirements as opposed to total program development. The computer/remote terminal processing of data was divided into one of three major areas depending on type of data or analysis function. The areas are: 1) Logistics Management Data, 2) Time Compliance Technical Orders, and 3) Depot Data. The characteristics of each area are described below.

AREA I - LOGISTICS MANAGEMENT DATA

AFM 66-1/AFM 65-110 (Maintenance/Reliability/Operations Data)

This area was the largest, not only in terms of total records handled (over 5.9 million), but in statistical outputs for analysis. The data was extracted from the Standard Logistic Management System. Results of these analyses are covered in the various categories of the statistical summary section of this report. Figure C-1, Appendix C, indicates the steps taken from initial receipt of the data from AFLC through final processing. The figure also indicates the major output elements generated from each step in the flow. This allows the reader to track the processing and output elements without being totally cognizant of the software.

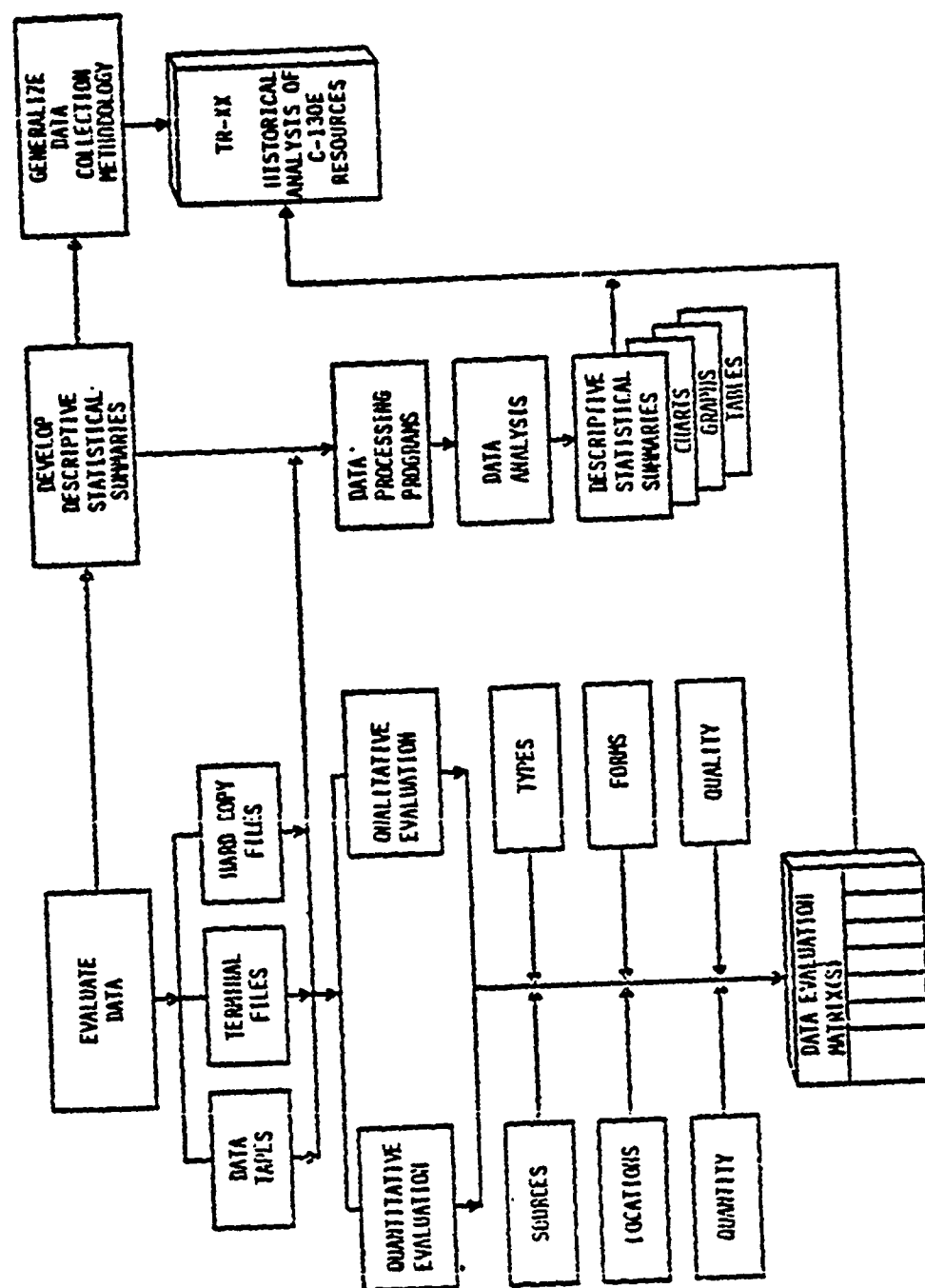


FIGURE 6 DATA ANALYSIS FLOW DIAGRAM TASK IV

TABLE 1 DATA EVALUATION MATRIX

CATEGORY/ELEMENTS OF DATA	SOURCES/AGENCY	LOCATION	TYPE OF DATA OR DATA FILE	DATA QUANTITY/QUALITY			REMARKS
				FORM(S)	RECORDS	YEARS	
1. OPERATIONS DATA: AIRCRAFT UTILIZATION DATA AS FOLLOWS: - NO. OF AIRCRAFT - TOTAL FLIGHT TIME (BY MOS/MONTH) - AIRCRAFT UTILIZATION (FIU/ACFT/MO) - TOTAL SORTIES - AVERAGE MISSION LENGTH - TOTAL LANDINGS - NORM RATE - MORS RATE - OR RATE AIRCRAFT ABORTS: - OPERATIONS - MAINTENANCE - OTHER TURN AROUND TIME	AFLC/HO	WPAFB, OHIO	AFM 65-110 (1-1IAF-A1-110-12)	HARD COPY	1700	1962-1969	95 MONTHLY REPORTS CONTAINING ALL USAF AIRCRAFT REQUIRED MANUAL EXTRACTION
	AFLC/LOAC	WPAFB, OHIO	AFM 65-110 (1-1IAF-A1-110-12)	HARD COPY	1900	1970-TO-DATE	84 MONTHLY REPORTS CONTAINING ALL USAF AIRCRAFT REQUIRED MANUAL EXTRACTION
							"
							"
							"
							"
							"
							"
							"
							"
2. MAINTENANCE DATA: SYSTEM- MAINTENANCE MANHOOURS (ORGANIZATION/INTER- MEDIANE) BY YEAR GENERAL SHIPPORT MAINTENANCE MANHOOURS BY UNIT CODES 01 THRU 09	AFLC/ACVMP	WPAFB, OHIO	DO56 SERIES REPORTS	TAPE	5,989,175	1971-1976	NOT OBTAINED DATA NEEDS TO BE REFINED TO ELIMINATE DUPLICATE ABORTS REPORTED BY WORK UNIT CODE
							NOT OBTAINED
							NOT OBTAINED
							NOT OBTAINED
	AFLC/ACVMP	WPAFB, OHIO	DO56 SERIES REPORTS	TAPE	5,989,175	1971-1976	DATA WAS PROVIDED IN NORMAL AFM 66-1 BASIC RECORD FORMAT AND REQUIRED USE OF IN-HOUSE PROGRAMS PROCESSING TO ENABLE ADEQUATE DATA CONFIGURATION FOR ANALYSIS
	C-130E UNITS 62 MAW 314 TAM 317 TAM	MCCHORD AFB, WA LITTLE ROCK AFB, AR POPE AFB, NC	AFH 66-1 MOC/BLIS AFH 66-1 MOC/BLIS AFH 66-1 MOC/BLIS	LISTING LISTING LISTING	- - -	1976 1976 1976	COMPLETE GENERAL SUPPORT DATA MUST BE OBTAINED FROM EACH INDIVIDUAL UNIT AND THE UNITS CURRENTLY MAINTAIN 12 MONTHS OF HISTORY

TABLE 1 DATA EVALUATION MATRIX (CONT.)

CATEGORY/ELEMENTS OF DATA	SOURCES/AGENCY	LOCATION	TYPE OF DATA OR DATA FILE	DATA QUANTITY/QUALITY			REMARKS
				FORM(S)	RECORDS	YEARS	
1. <u>ICD MAINTENANCE MAN- HOURS</u>	WRALC/WHSS	WARRIOR ROBINS AFB GA	1047 SERIES REPORTS	LISTING	21,000	1962-1976	DATA WERE PROVIDED IN BASIC RECORD FORMAT BY AIRCRAFT TAIL NUMBER AND REQUIRED DEVELOPMENT OF IN-HOUSE PROGRAMS TO ENABLE ADEQUATE DATA CONFIGURATION FOR ANALYSIS
PERCENT MAINTENANCE MANHOURS FOR: - SCHEDULED MAINT. - UNSCHEDULED MAINT. - SERVICING - BENCH CHECK - TRAINING/SHOOTING - OTHER	AFLC/ACVMP	WPAFB, OHIO	1056 SERIES REPORTS	TAPE	5,989,175	1971-1976	DATA WERE PROVIDED IN NORMAL AFM 66-1 BASIC RECORD FORMAT AND REQUIRED IN-HOUSE PROGRAMS/ PROCESSING TO ENABLE ADEQUATE DATA CONFIGURATION FOR ANALYSIS
2. <u>SYSTEM MAINTENANCE TASKS FOR QUALITY/ANALYSIS MODIFIED BY YEAR</u>	AFLC/ACVMP	WPAFB, OHIO	1056 SERIES REPORTS	TAPE	5,989,175	1971-1976	DATA WERE PROVIDED IN NORMAL AFM 66-1 BASIC RECORD FORMAT AND REQUIRED USE OF IN-HOUSE PROGRAMS PROCESSING TO ENABLE ADEQUATE DATA CONFIGURATION FOR ANALYSIS
3. <u>RELIABILITY DATA: TOTAL FAILURES BY SYSTEM BY YEAR</u>	AFLC/ACVMP	WPAFB, OHIO	1056 SERIES REPORTS	TAPE	5,989,175	1971-1976	DATA WERE PROVIDED IN NORMAL AFM 66-1 BASIC RECORD FORMAT AND REQUIRED USE OF IN-HOUSE PROGRAMS PROCESSING TO ENABLE ADEQUATE DATA CONFIGURATION FOR ANALYSIS
PERCENT FAILURES: a. BEFORE FLIGHT b. IN-FLIGHT c. BETWEEN FLIGHT d. DURING INSPECTION REPAIR DATA (BASE) a. ORGANIZATIONAL b. IMMEDIATE - BENCH CHECK - NITS - CONDEMNED REPAIR DATA (DEPOT)	AFLC/ACVMP	WPAFB, OHIO	1056 SERIES REPORTS	TAPE	5,989,175	1971-1976	DATA WERE PROVIDED IN NORMAL AFM 66-1 BASIC RECORD FORMAT AND REQUIRED USE OF IN-HOUSE PROGRAMS PROCESSING TO ENABLE ADEQUATE DATA CONFIGURATION FOR ANALYSIS " "
4. <u>SAFETY DATA - ACCIDENTS - MAJOR - MINOR - INCIDENTS</u>	AFLC/ACVRC AIR FORCE SAFETY CENTER (IC/SER)	WPAFB, OHIO HORTON AFB, CA	DD41 CREATE DATA DD36B DMIF PROD. COST DD97 IAS GROUPING DATA ACCIDENT/INCIDENT REPORTS	TAPE LISTINGS	125,000 -	FY 1975- 1976 1962-1976	DATA FROM EACH DATA SYSTEM WERE PROVIDED ON INDIVIDUAL TAPES AND REQUIRED USE OF IN-HOUSE PROGRAMS/PROCESSING. ACCIDENT SUMMARY REPORTS FOR 1962-1976 AND INCIDENT REPORTS FOR 1976 WERE PROVIDED.

TABLE 1 DATA EVALUATION MATRIX (CONT.)

CATEGORY/ELEMENTS OF DATA	SOURCES/AGENCY	LOCATION	TYPE OF DATA OR DATA FILE	DATA QUANTITY/QUALITY			REMARKS
				FORM(S)	RECORDS	YEARS	
6. MATERIAL RESOURCES (CONT.)	IIQ USAF/ACMCA	WASHINGTON, D.C.	OPERATING AND SUPPORT COST REPORT (OSCR)	LISTING	-	FY 1975	PROVIDES C-130E OPERATING AND SUPPORT COST BY VARIOUS COST CATEGORIES. THIS SYSTEM WAS IMPLEMENTED WITH FY 1975. FY 76 INFORMATION NOT RELEASED AS OF THE PRINTING OF THIS DOCUMENT
	C-130E UNITS 62 MAW 314 TAW 317 TAW	MCCHORD AFB, WA LITTLE ROCK, AR POPE AFB, NC	MAINTENANCE COST SYSTEM (MCS) EXECUTIVE MANAGEMENT SUMMARIES (REF AFN 177-380)	MONTHLY REPORTS	-	JUN '75- DEC '76	PROVIDES WEAPON SYSTEM DIRECT AND INDIRECT MATERIAL COSTS BY MONTH AT BASE LEVEL. IDENTIFIES VALUE OF MATERIAL CONSUMED WITHIN MBS WITHIN MOS/NON MOS BY MONTH. MOS CATEGORIES INCLUDE AIRCRAFT, AIRFRAME, ENGINE, ACCESSORIES, ELECTRONICS, NON MOS INCLUDES SUPPLY SUPPORT, CEM, AGE AND OTHER CATEGORIES
	FUEL OFFICES C-130E UNITS 62 MAW 314 TAW 317 TAW	MCCHORD AFB, WA LITTLE ROCK AFB, AR POPE AFB, NC	POL (FUEL) CONSUMPTION DATA	-	-	1976	PROVIDED NUMBER OF CALLONS OF FUEL C-130's CONSUMED EACH MONTH OF 1976
7. COST DATA: - RDT&E - PROCUREMENT - OPERATIONS & SUPPORT	IIQ USAF/ACMCA	WASHINGTON, D.C.	ESTIMATING AND PLANNING FACTORS/AER 173-10	DOCUMENT	-	CURRENT	PROVIDES OPERATIONS AND SUPPORT COST ESTIMATING AND PLANNING FACTORS FOR USAF WEAPON SYSTEMS
	IIQ USAF/ACMCA	WASHINGTON, D.C.	OPERATING AND SUPPORT COST REPORT (OSCR)	LISTING	-	FY 1975	PROVIDES C-130E OPERATIONS AND SUPPORT COST BY VARIOUS COST CATEGORIES. THIS SYSTEM WAS IMPLEMENTED WITH FY 1975. FY 1976 INFORMATION WAS NOT RELEASED AS OF THE PRINTING OF THIS DOCUMENT.
	AFLC/ACH	WPAFB, OHIO	UNIT COSTS OF AIRCRAFT 1.0. 00-25-30	TECHNICAL ORDER	-	CURRENT	PROVIDES AVERAGE AIRCRAFT UNIT FLYAWAY COST, BASED ON FUNDING APPROPRIATIONS.

TABLE 1 DATA EVALUATION MATRIX (CONT.)

CATEGORY/ELEMENTS OF DATA	SOURCES/AGENCY	LOCATION	TYPE OF DATA OR DATA FILE	FORM(S)	RECORDS	DATA QUANTITY/QUALITY	
						YEARS	REMARKS
7. COST DATA (CONT)	FROST AND SULLIVAN INC.	NEW YORK, NY	DEFENSE CONTRACTS/ COST INFORMATION	LISTING		1962-1975	PROVIDES HISTORICAL VISIBILITY INTO INDIVIDUAL CONTRACTS BY PRODUCT CATEGORIES AGAINST THE C-130 AIRCRAFT. SOME CONTRACTS REFLECT SPECIFIC AIR FORCE C-130E APPLICATION. INDIVIDUAL CONTRACT DOLLAR VALUE IS REFLECT ED FOR MOST CONTRACTS LISTED.
	C-130E UNITS 62 MAH 314 T/M 317 T/M AFLC/LQ/MA, SCALC/ACDH	WACHORD AFB, WA LITTLE ROCK AFB AR POPE AFB, NC WPAFB, OH MCCELLELLAN AFB, CA	MAINTENANCE COST SYSTEM (MCS) EXECUTIVE MANAGEMENT SUMMARIES AFR 177-380 LOGISTICS SUPPORT COST RANKING (IROS/X051) SYSTEM	MONTHLY REPORTS QUARTERLY REPORTS		JUL '75- DEC-76 1973- 1976	PROVIDES WEAPON SYSTEM COSTS DIRECT AND INDIRECT BY EACH INDIVIDUAL UNIT. INFORMATION OBTAINED WAS ONLY FROM THE 3 UNITS LISTED. THE LOGISTIC SUPPORT COST RANKING (IROS/X051) REPORTS ARE DESIGNED TO PROVIDE AN ESTIMATE OF COST TO REPAIR, MAINTAIN, AND SUPPLY A SPECIFIC ITEM (MUC) FOR A GIVEN PERIOD. IT PROVIDES FIELD MAINTENANCE COSTS, SPECIALIZED REPAIR ACTIVITY COST, SPARES/MATERIAL COST AND PACKAGING/SHIPPING COST. IT ALSO CONTAINS OTHER DATA SUCH AS SAFETY AND AVAIL- ABILITY. COSTS NOT INCLUDED ARE: GROUND SUPPORT EQUIPMENT, MODIFICATION HARDWARE, AND SELECTED SPARES. THE X051 COSTS DATA WAS USED IN THIS STUDY TO DETERMINE THE TOP 10 MUC LSC RANKING. IT WILL NOT BE USED FOR LCC BECAUSE IT WAS NOT DESIGNED TO CAPTURE TOTAL COSTS OF ALL SYSTEMS ON AIRCRAFT.

A detailed description of the processing and other manuals/technical orders used for data interpretation are contained in references 3 through 8. Derivation of, and combination of codes covered in the above references for the respective data elements and rates are explained in later sections.

AREA II - TIME COMPLIANCE TECHNICAL ORDERS (TCTO's)

Fleet Applicability Reports of TCTO modification kits, installed on 308 C-130E aircraft between 1962 and 1976 were evaluated. The magnitude of historical data extant within the Fleet Applicable Reports, necessitated the use of a computer system. A total of 956 computer printout pages of historical data, encompassing 308 C-130E Hercules aircraft required the recompilation and printout of selected TCTO histories, namely: a) accomplished intermediate level-installed TCTO's by aircraft tail numbers, b) installation accomplished at depot level, c) accumulated intermediate and depot TCTO installation hours by year (1962 through 1976), and d) composites of intermediate and depot kits installed by year and tail number. Figure C-2, Appendix C, provides the single thread sequential logic flow followed.


AREA III - DEPOT DATA

Acquisition of "Depot Type" data was the most difficult. After visits to the various depots, it became apparent that the data were not weapon system oriented. Also, data that might be beneficial were contained in several different data collection systems, each designed to serve its own function. To compensate for this fragmented data and in some cases no data at all, it was necessary to rely on depot data acquired and processed for other studies being conducted within Boeing. This approach appeared to be the most fruitful within the constraints of the study as to manpower effort, data format and completeness, flow time, and computer processing, development, and execution. In addition, the results of these studies would be applicable and allow additional concentration in other data acquisition and analysis areas.

The depot data utilized were acquired from various government agencies responsible for the respective data system. These systems are described in Reference 2.

Figure C-3, Appendix C, illustrates the complex interaction and merging of these data systems to produce appropriate results for C-130E depot information. These results are portrayed in the maintenance, cost, and summary paragraphs of this section.

As previously stated, depot maintenance data are not weapon system oriented, they are keyed to a component national stock number (NSN) with desired data elements in several data systems. To overcome this diversion and bring the data elements together under a weapon system concept, application data were used to select NSN's applicable to the C-130E, which were then correlated with the "NSN/WUC Dictionary" for component work unit code (WUC) and nomenclature, and then screened

to obtain interchangeable and substitute NSN's. If additional information is desired, detail description of the programs and processing methodology are covered in Reference 

DATA NORMALIZATION

Air Force data and records are retained, and disposed of periodically, in accordance with Standard Air Force Procedures. As could be expected, the historical support resource data for the C-130E is incomplete over the 15 year operational period of this study. Typically, six or more years' data are found to be unavailable for each data set. Therefore, to overcome this deficiency, a missing data estimation process was developed to fill the voids. The process is based on simple, least squares regression analysis of the known data and is dependent on three basic assumptions:

- a. Expenditure of support resources can be related to operational parameters (where a full 15 years' data set is available) on a cause-effect basis. These relationships can take the primary form of -- Operational Parameter - causes - Support Parameter 1 -- or the secondary form of -- Operational Parameter - causes - Support Parameter 1 - causes - Support Parameter 2.
- b. The relationships detected can be represented by straight-line functions.
- c. The missing data years are within the relevant range of the straightline functions representing the data.

A general description of the process for estimating the missing data, based on the foregoing assumptions, is provided in Appendix C.

DATA DEVELOPMENT

The vastness of data acquired and the various types and categories of data presented a unique situation in data handling and management. These data consisted of over 900 published documents/reports/listings/indexes/ and 6.1 million records which required approximately 36,000 separate computations to develop statistical analysis and summations.

To effectively and efficiently handle the data and ensuing computations, a remote terminal computer system was employed to complete three major functions:

- a. Historical Weapon System Data Bank Category Extraction;
- b. Normalization Distribution, and
- c. Data tape development and compilation.



Boeing Document, D745-10042-1, "Depot Maintenance Data Processing Definition."

Appendix C illustrates this procedural flow and provides a step by step explanation. A data tape of the pertinent information of all tasks was developed.

STATISTICAL SUMMARIES

C-130E BACKGROUND

It seems appropriate at this point of the study to present a brief history and description of the C-130E aircraft. Limited by the scope of this task and the extensive time period under examination, a comprehensive treatment of all significant aspects of the aircraft is not within the scope of this study.

Although this study is devoted to the "E" series of the C-130 family, the following significant milestones and hereditary tree will bring the "E" into a proper perspective.

Major Initial Milestones

Development contract:	1952
Prototype flights:	1954
First C-130A deliveries:	1956
First C-130B deliveries:	1958
→ First C-130E deliveries:	April 1962

Series Distinctions

YC-130: Prototype model, two of which were built.

YC-130A: The initial production version with 3,750 shp Allison T56-A-1A or -9 turboprops. Some 231 were built before production ended, including 12 for the Royal Australian Air Force. Developments and modifications to the basic C-130A include the following:

AC-130A: Gunship configuration. Weapons include four 20mm Vulcan cannons and four 7.62 mm miniguns, all Gatling-type guns with a combined rate of fire of 34,000 rounds per minute.

DC-130A: Similar to C-130A, except capable of controlling a drone aircraft or missile. Crew of four. The Navy has two.

RC-130A: AC-130A modified to perform electronic aerial geodetic surveying and mapping.

C-130D: A small group of C-130As modified for USAF service in the Antarctic with combination wheel/ski landing gear.

RC-130S: Modified to carry the Battlefield Illumination Airborne System (BIAS).

C-130B: A modification of the C-130A with increased fuel capacity, more powerful T56-A-7 engines and heavier landing gear. Deliveries were made to Indonesia, Canada, Pakistan, South Africa, and the US. Developments and modifications of the basic C-130B include the following:

HC-130B: A Coast Guard version with special equipment for search and rescue.

JC-130B: Modified C-130Bs equipped for Discoverer satellite recovery.

NC-130B: An experimental boundary layer control test bed for USAF, with T56-A-6 turbojet engines mounted under the wings. One-of-a-kind.

WC-130B: A C-130B modified for Air Weather Service.

C-130F: A Navy utility transport, formerly GV-1U.

KC-130F: Marine Corps aerial tanker with crew of seven.

LC-130F: A Navy ski-equipped cargo/personnel transport for Antarctic service.

C-130G: Similar to C-130 except for changes in certain electric and electronic areas.

EC-130Q: ECM version, used primarily by the Marines.

➤ C-130E: Similar to C-130B but with increased fuel, weight and load carrying capacity. It is capable of carrying 92 troops, 65 paratroops, or 74 litters with two attendants. Ten of these, equipped with AN/USC-15 command and control capsules, are used for the Airborne Command and Control (ABCC) role. The C-130E is in the inventories of Argentina, Brazil, Chile, Iran, Australia, Canada, Chile, Peru, Saudi Arabia, Sweden, USAF and U.S. Coast Guard. Developments and modifications of the basic C-130E include:

AC-130E: An improved gunship variation with "Suprise Package" avionics including Low Level Light Television (LLLTV), infrared and night observation devices. Weapons carried include twin 40 mm Bofors cannons, two 20 mm Vulcan cannons and two 7.62 mm miniguns.

DC-130E: A drone control version for the Air Force.

EC-130E: A special version for the Coast Guard, used for electronic calibration of LORAN equipment.

HC-130E: Specially equipped for search and rescue missions. Formerly designated SC-130F.

LC-130R: Has Naval avionics, T52-A-16 engines, cold weather modifications and skis.

WC-130E: Modified for Air Weather service.

C-130M: A C-130E with C-130B forward cargo door installed and some C-130B avionics. A MAP aircraft.

C-130H: A C-130E airframe equipped with more powerful T56-A-15 engines and improved avionics. Developments and modifications to the basic C-130H include:

HC-130H: Similar to HC-130E, except for more powerful T56-A-15 engines. Has greater range due to increased fuel capacity in the fuselage and carries the Fulton surface-to-air recovery system with nose-mounted yoke. The HC-130H is primarily used for search, rescue, surface-to-air recovery of downed crews, and air-to-air retrieval missions.

C-130K: Basically a C-130H, modified for use by the Royal Air Force, with primarily British avionics. Sixty-six were delivered to RAF Air Support Command.

The C-130 was designed and constructed as an assault transport by the Lockheed-Georgia Company, Marietta, Georgia, yet it is used to perform several different missions, as indicated:

C-130A/B/D/E/H	Logistics (Air Land/Air Drop of Cargo and Troops)
AC-130A/H	Gunship Operations
DC-130A/E	Control Aircraft for Drone
RC-130A	Photomapping
HC-130H/N/P	Search and Rescue
JC-130B	Missile Tracker
WC-130B/E/H	Weather Recon

The number of C-130E aircraft (as of fiscal year 1977) and the percent to which the fleet is utilized is shown in Figure 7 and 8.

<u>Configuration</u>	<u>Inventory</u>
AC-130A/H	23
C-130A/D	153
C-130B	101
→ C-130E	329
C-130H	39
HC-130H	30
HC-130N	15
HC-130P	18
WC-130H	11
Total	719

FIGURE 7 C-130 INVENTORY BY CONFIGURATION

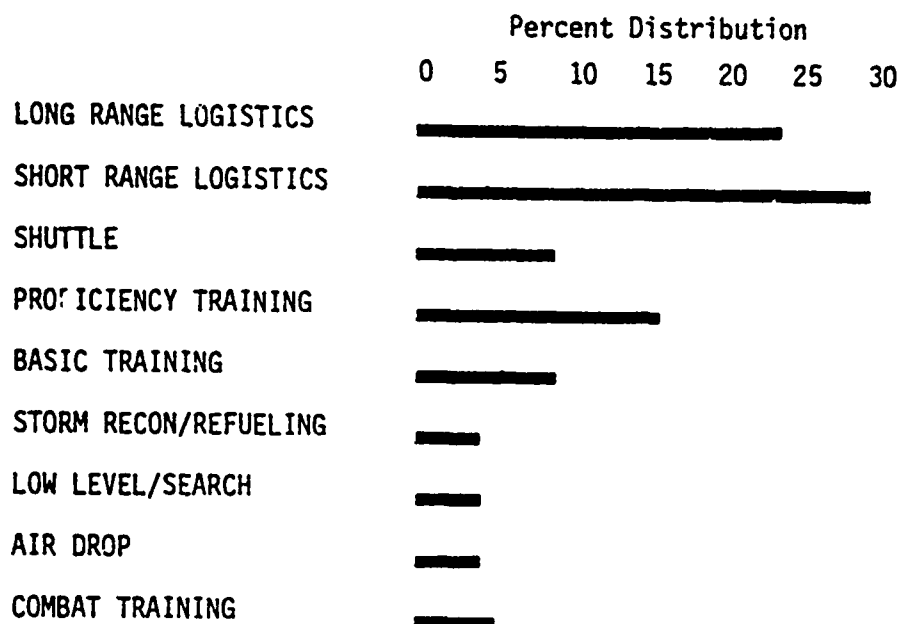


FIGURE 8 C-130 MISSION UTILIZATION

As a prelude to the statistical system summaries and respective trends, and for a better understanding of the aircraft and its various systems makeup, Figures C-4 through C-9, Appendix C, reflect the aircraft's major dimensions, specifications, characteristics, and the highlights pertaining to each system.

CATEGORIES OF DATA

Seven major categories of data were developed to logically and systematically portray the data acquired and aid computer processing

and analyses: 1) operations, 2) maintenance, 3) reliability, 4) safety, 5) human resources, 6) material resources, and 7) cost. Each of these are discussed separately in detail in the form of charts, tables, figures, and results/findings to portray a historical 15 year footprint from the first year of introduction into Air Force service (1962) through present (1976).

OPERATIONS DATA

To set the stage for this category and the ensuing six, it is appropriate to iterate that this section of the document will be primarily devoted to the analysis and statistical presentation of 15 years worth of C-130E data. To acquaint the reader with the events in history that took place prior to and during the study time period in which the C-130 played a major role and thus the generation of these data, one must start with the Congo Airlift. Between 1960 and 1964, the U.S. Air Force flew more than 2,000 missions in history's longest airlift (up to that point in time), reaching 5,000 miles from Europe around Africa's coast to the Congo. Next came the October 1962 Cuban Crisis where ammunition for TAC composite air strike forces was rapidly airlifted to Florida, and U.S. Marines to Guantanamo Bay, Cuba. The C-130E's were also heavily involved in the airlift operations to Vietnam which began in the early 1960's and accounted for the surges or peaks in the statistics so evident in the other categories. During this same peak period, 1965 through 1966, the Dominican Republic crisis also required heavy airlift support. Since these major incidents and with the introduction of the C-141 into the inventory, there has been a general reduction in C-130E utilization.

Statistics

The commonly referenced aircraft operational parameters are shown in Table 2. Definitions and derivations of these parameters are covered in the Glossary of Terms. Table 3 is a summary of the aircraft procurement and Table 4 the individual aircraft serial numbers. In Table 3 the aircraft attrited and active aircraft columns are for aircraft of that serial number year and should not be interpreted as for that calendar year.

Data source for Table 2 was AFM 65-110 (1-HAF-A1-110-12) and for Table 3 and 4 was WRALC (MMSRBA) C-130E Serial Chart/ER-70-70M.

MAINTENANCE DATA

The maintenance of most weapon systems constitutes the major portion of resources and effort and this statistical presentation and analysis is no exception. To systematically portray the information, the data were divided into divisions, mainly manhours, tasks, TCTO, and other. These divisions are depicted in Figure 9. The other category consisted of those areas where although they would appear to be subsets of the other three, the data appeared to dictate a separate division.

TABLE 2 C-130E OPERATIONS STATISTICS

OPERATIONAL PARAMETERS	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE/ TOTAL
POSSESSED AIRCRAFT (AVERAGE)	11	83	226	315	295	291	279	289	304	323	298	293	295	296	297	260
AIRCRAFT FLIGHT HOURS TOTAL	*10,800	*82,274	231,069	347,008	444,283	386,609	310,185	255,373	245,153	246,979	220,070	190,734	169,867	170,360	164,553	1,463,317
AVERAGE UTILIZATION (FLT. HRS./ACFT./MO.)	* 190	* 83	85	92	126	105	93	74	67	64	61.5	54.2	48.0	48.0	46.2	75.2
AVERAGE MISSION LENGTH (FLIGHT HOURS)	-	-	-	4.33	4.11	2.89	1.89	1.89	1.94	2.19	2.78	2.58	2.91	2.82	2.57	2.63
AVERAGE LANDINGS/FLIGHT HOUR	-	0.86	0.64	0.55	-	1.7	0.7	0.9	1.0	1.1	1.1	1.0	1.2	1.1	1.1	1.00
PERCENT OPERATIONAL READY	89.9	80.7	74.9	72.9	69.5	74.3	74.3	73.2	68.0	68.7	69.3	68.2	69.0	63.9	61.1	69.9
PERCENT NOT OPERATIONAL READY SUPPLY	3.7	6.7	7.9	5.3	6.4	2.4	1.7	2.0	3.5	3.4	3.3	4.4	3.7	4.3	4.0	4.0
PERCENT NOT OPERATIONAL READY SUPPLY - FLYABLE	-	-	-	-	-	1.4	2.2	0.8	1.4	1.7	5.0	7.0	8.0	6.6	6.4	6.4
PERCENT NOT OPERATIONAL READY SUPPLY - GROUNDED	-	-	-	-	-	2.0	1.6	2.0	3.5	3.4	3.3	3.7	3.7	4.3	4.0	4.0
PERCENT NOT OPERATIONAL READY MAINTENANCE	10.4	12.6	17.2	21.8	24.1	23.3	24.0	24.8	28.5	27.9	27.4	27.4	27.3	31.8	34.9	26.1
PERCENT NOT OPERATIONAL READY MAINTENANCE - FLYABLE	-	-	-	-	-	-	-	-	-	-	-	5.0	4.9	6.2	8.3	8.3
PERCENT NOT OPERATIONAL READY MAINTENANCE - GROUNDED	-	-	-	-	-	-	-	-	-	-	-	22.4	22.4	25.6	26.1	26.1
PERCENT NOT OPERATIONAL READY MAINTENANCE - TICD	0.2	0.6	0.7	0.6	0.7	0.9	1.0	0.1	0.6	0.1	0.1	Not Reported	Not Reported	Not Reported	Not Reported	Not Reported

- INCONSISTANT REPORTING

* ESTIMATED

TABLE 3 C-130E AIRCRAFT PROCUREMENT SUMMARY BY AIRCRAFT SERIAL NUMBER YEAR

Serial Number Year	Aircraft Count	Aircraft Allocated	Active Aircraft	Aircraft Age in Years*
1961	16	-	15	15
1962	83	16	67	14
1963	143	12	131	13
1964	96	11	85	12
1968	17	-	17	8
1969	19	2	17	7
1970	18	-	18	6
1972	12	-	12	4
TOTAL	403	41	362	11.9

* Assumes aircraft was produced in that serial number year.

TABLE 4. USAF C-130E AIRCRAFT (BY YEAR/SERIAL NUMBER)

1961	1962	1963	1964	1965	1970	1972
61- 2356 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373	63- 1764 1765 1766 1767 1768 1769 1770 1771 1772 1773 1774 1775 1776 1777 1778 1779 1800 1801 1802 1803 1804 1805 1806 1807 1808 1809 1810 1811 1812 1813 1814 1815 1816 1817 1818 1819 1820 1821 1822 1823 1824 1825 1826 1827 1828 1829 1830 1831	65- 2765 2766 2767 2768 2769 2770 2771 2772 2773 2774 2775 2776 2777 2778 2779 2780 2781 2782 2783 2784 2785 2786 2787 2788 2789 2790 2791 2792 2793 2794 2795 2796 2797 2798 2799 2800 2801 2802 2803 2804 2805 2806 2807 2808 2809 2810 2811 2812 2813 2814 2815 2816 2817 2818 2819 2820 2821 2822 2823 2824 2825 2826 2827 2828 2829 2830 2831 2832 2833 2834 2835 2836 2837 2838 2839 2840 2841 2842 2843 2844 2845 2846 2847 2848 2849 2850 2851 2852 2853 2854 2855 2856 2857 2858 2859 2860 2861 2862 2863 2864 2865 2866 2867 2868 2869 2870 2871 2872 2873 2874 2875 2876 2877 2878 2879 2880 2881 2882 2883 2884 2885 2886 2887 2888 2889 2890 2891 2892 2893 2894 2895 2896 2897 2898 2899 2900 2901 2902 2903 2904 2905 2906 2907 2908 2909 2910 2911 2912 2913 2914 2915 2916 2917 2918 2919 2920 2921 2922 2923 2924 2925 2926 2927 2928 2929 2930 2931 2932 2933 2934 2935 2936 2937 2938 2939 2940 2941 2942 2943 2944 2945 2946 2947 2948 2949 2950 2951 2952 2953 2954 2955 2956 2957 2958 2959 2960 2961 2962 2963 2964 2965 2966 2967 2968 2969 2970 2971 2972 2973 2974 2975 2976 2977 2978 2979 2980 2981 2982 2983 2984 2985 2986 2987 2988 2989 2990 2991 2992 2993 2994 2995 2996 2997 2998 2999 3000 3001 3002 3003 3004 3005 3006 3007 3008 3009 3010 3011 3012 3013 3014 3015 3016 3017 3018 3019 3020 3021 3022 3023 3024 3025 3026 3027 3028 3029 3030 3031 3032 3033 3034 3035 3036 3037 3038 3039 3040 3041 3042 3043 3044 3045 3046 3047 3048 3049 3050 3051 3052 3053 3054 3055 3056 3057 3058 3059 3060 3061 3062 3063 3064 3065 3066 3067 3068 3069 3070 3071 3072 3073 3074 3075 3076 3077 3078 3079 3080 3081 3082 3083 3084 3085 3086 3087 3088 3089 3090 3091 3092 3093 3094 3095 3096 3097 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• Aircraft allotted

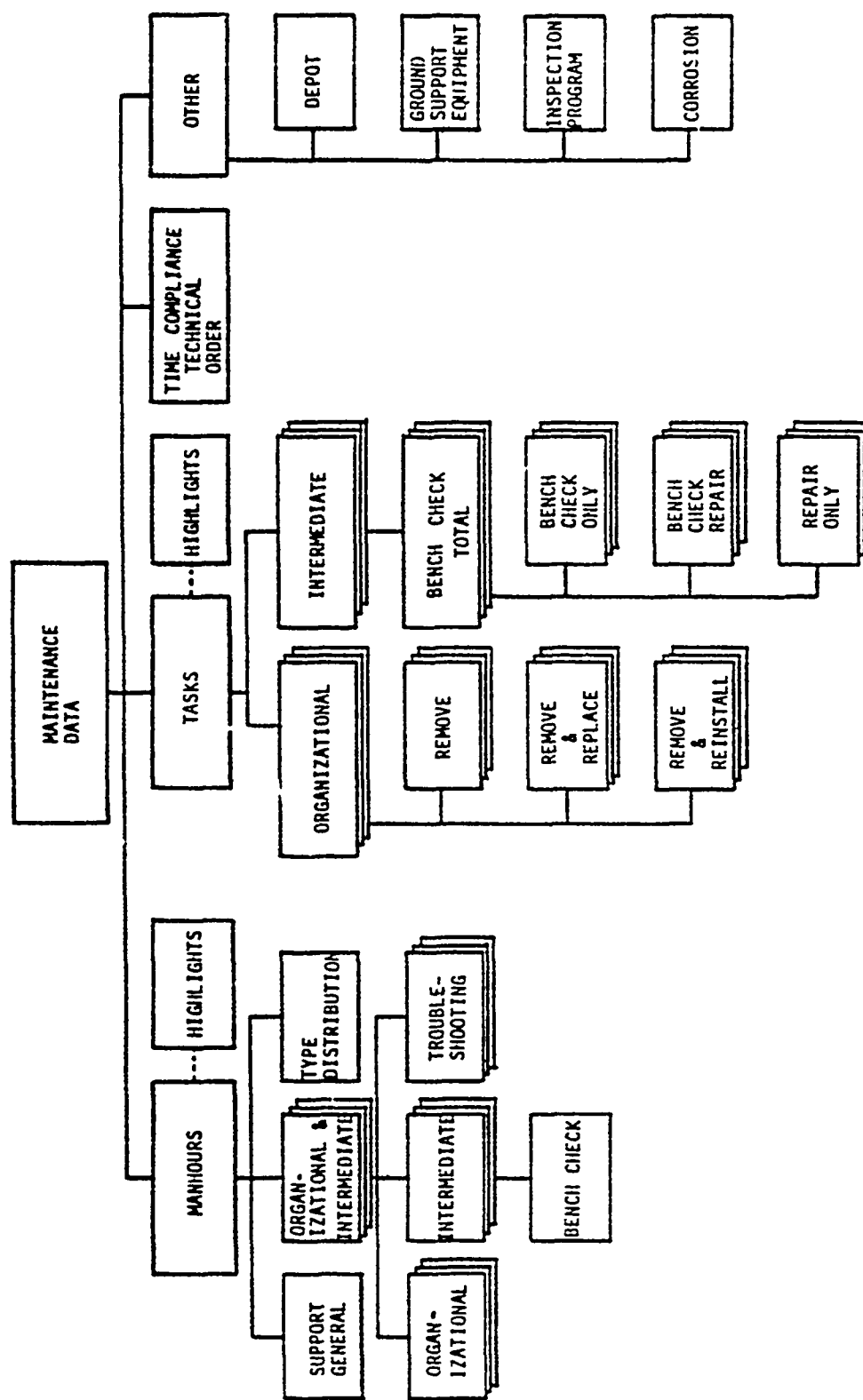


FIGURE 9 C-130E MAINTENANCE DATA BREAKDOWN

In general, each minor division is further sub-divided into three areas of presentation: a) per 1000 flight hours, b) percent distribution, and c) per sortie. In these presentations the following features are highlighted for ease in interpretation and understanding. Each year of normalized data is indicated with an asterisk (*), all others are actual acquired data. Generally, if a given data element value is zero, data were available but after computing, the result was insignificant. If a dash (-) appears, it signifies no data were acquired or recorded/reported. Variations in decimal presentations resulted from using previously determined values and computer generated values.

Tables D-1 through D-47 are provided in Appendix D. They are self-explanatory, only those that require additional explanation or contain significant anomalies will be discussed.

SUPPORT GENERAL - TABLE D-1

This table depicts the support general manhours expended on the C-130E aircraft during the 15 years under consideration. It is significant to note that only four years of actual data are displayed, with the remaining being derived from the normalization process. This is a departure from the majority of the data tables in that eight years of actual data are normally shown. The lack of data is caused by Air Force policy in that only 03 and 04 support general data are forwarded to AFLC from operational bases. Total data are retained by the bases for one year and (outside of data on hand at Boeing), only the current year was acquired.

TYPE DISTRIBUTION - TABLE D-5

This table shows the percent distribution of organizational and intermediate (combined) manhours by servicing (SV), scheduled (SC), unscheduled (UN) and other (OT). The distribution covers each aircraft system and for only the years 1971 through 1976. This type of percent distribution data does not, for obvious reasons, lend itself to meaningful normalization results. If a manhour distribution were desired for a given year, prior to 1971, the six year percentage averages of actual data could be applied to determine the spread.

The type maintenance codes used in each of the four divisions are covered in the definition section of this report.

ORGANIZATION MANHOURS - TABLE D-9

The significant anomalies noted for this breakout of manhours fell into systems 64 and 65 for 1971 and systems 12, 14, and 41 for 1974. It should be noted that in order to determine the reason for this irregularity, actual data are required and preferably on both sides of the year in question. Also, this in itself is limited to the quantitative aspect and brief malfunction coding of the data. Qualitative data would be required from the using organizations which was beyond the scope and resources of this study. Even then, for older problems, it would be difficult if not impossible to obtain. Therefore, only what can be gleaned from the data, historical reports, and most probable causes are indicated.

Cockpit and Fuselage Compartment (12) - Table D-9

During 1974 the organizational manhour expenditures increased 58% over 1973. The dual rail cargo kit, aft cargo, and forward cargo furnishings accounted for 53% of this increase with each increasing 95, 99, and 78 percent respectively. The dual rail cargo kit's primary malfunction mode was "no defect," with 82% of the actions being to remove and install.

In the aft cargo subsystem the primary manhour contributors were the cargo securing equipment, general furnishings, and equipment stowage. Each increased 185, 215, and 90 percent, respectively. Loose or missing bolts-nuts-screws were the primary malfunction modes.

For the forward cargo furnishings, the general furnishings, cargo securing equipment, and floor panels were the major contributors. Each increased 704, 399, and 93 percent, respectively. Similar to aft cargo, the same malfunction modes prevailed with a pronounced increase in "no defect" remove and install actions.

Equipment modifications or increased familiarity with the system appears probable as the manhour expenditures reduced in 1975 to almost a pre-1974 level.

Flight Controls (14) - Table D-9

A second area of significant organizational manhour (Table D-9) expenditure increase, up 42%, was in flight controls. The mechanical components in the wing flap, elevator tab, and elevator assembly accounted for 70% of this increase with each increasing 47, 187, and 68 percent respectively. Within the wing flap system, the housing assembly, jackscrew and center flap assembly each increased 371, 71, and 36 percent respectively. The primary modes were loose or missing nuts-bolts, etc., cracked, and dirty. In the elevator tab assembly, the flexible shaft and tab itself exhibited 534 and 62 percent increases respectively. "No defect" time change mode accounted for this departure. The access plate, cable assembly, and elevator torque tube increased 359, 188, and 157 percent respectively within the elevator assembly. The same modes prevailed here as in the tab. This inspection and replacement effort was completed in 1974 and the manhour expenditure reduced to a pre-1974 level in 1975.

Air Conditioning, Pressurization, and Anti-Ice (41) - Table D-9

The system manhour expenditure increased 38 percent with the water separator, refrigeration unit, and anti-ice radome accounting for 25 percent. Remaining increase components were scattered throughout the system. In general, components within these subsystems were being removed as "no defect" in compliance with scheduled maintenance and technical order incorporation.

Interphone (64) - Table D-9

Systems within the aircraft did not always increase the manhours but decreased as was the case in the interphone from 1971 to 1972. Although the decrease was not as significant, only 16 percent, as the previously discussed increases, it does show improvements to the aircraft. Analysis of the data malfunction modes did not indicate a probable cause for this improvement.

IFF (65) - Table D-9

This system also fell into the improvement category with a significant decrease in manhour expenditures of 72 percent between 1971 and 1972. In this instance, the reduction was attributable to the replacement of the AN/APX-25 with the AN/APX-72 (AIMS) system.

INTERMEDIATE MANHOURS - TABLE D-12

In this category of manhour expenditures four systems are worthy of mention: systems 12, 42, 47, and 65 (the first two for the 1976 year the last for the 1971 period).

Cockpit and Fuselage Compartment (12) - Table D-12

Following the pattern of system 12 organizational manhours the intermediate manhours increased 150 percent, but for a totally different reason. In this case the furnishings for the center cargo, flight deck, and forward cargo increased 317, 210, and 150 percent, respectively, representing 79 percent of the total increase. Analysis of the data showed that the cargo compartment insulation blankets, crew seats and seat cushion repairs were the major contributors. It would appear that a general housekeeping improvement effort was undertaken.

Electrical Power (42) - Table D-12

This system increased 60 percent in manhour expenditures with the battery accounting for almost 90 percent. Examination of the data did not indicate a plausible reason for this change.

Oxygen (47) - Table D-12

A reduction in manhours for this system of 55 percent was primarily attributed to the GCU-171A converter and CRU-471A regulator, which decreased 60 to 30 percent, respectively. Analysis of the malfunction modes indicates that the previously reported leakage problem has been corrected. This was probably due to improved sealing or procedural changes.

IFF (65) - Table D-12

As discussed in the previous organizational manhour section, the change from AN/APX-25 to AN/APX-72 also provided a 79 percent reduction in intermediate manhour expenditures.

MAINTENANCE TASKS - TABLE D-18

It is apparent in a weapon system that has been in the inventory for many years like the C-130E, an increase or decrease in organizational or intermediate manhours will generally have the same effect on tasks. Yet, the increase or decrease may be more evident in one category than the other. Therefore, in the analysis of task variance, only systems with anomalies not previously covered will be discussed in this section.

Airframe (11) - Table D-18

The organizational airframe tasks increased 86 percent in 1974 over 1973 with the cargo section and wing inboard increasing 107 and 80 percent, respectively. The wheel well assembly area and associated access plate, wing trailing edge area and inboard panel were the primary task contributors with loose or missing rivets, screws, or fasteners. These types of malfunction repairs would account for a task count increase.

Lighting System (44) - Table D-18

This system experienced a 100 percent increase in organizational tasks between 1973 and 1974. The predominate component was the bulb used in the cargo dome lights, formation lights, and instrument panel lights. The data did not indicate the reason for this mass replacement; However, the following year the task rate was back to normal.

TIME COMPLIANCE TECHNICAL ORDER (TCTO's)

Time Compliance Technical Orders (TCTO), used as the contract vehicle for modification of the C-130 weapon system were collected, and analyzed. The data acquired from Warner Robins Air Logistics Center (WRALC), Robins Air Force Base, Georgia (RAFB, GA), included C-130E Fleet Applicability Report TCTO histories of 308 C-130E aircraft. The file covered the period of 1962 through 1976. TCTO data acquired from these reports provided a comprehensive compendia of TCTO's installed at the field/intermediate/depot level denoting the following data fields by C-130E aircraft:

- 1) TCTO number(s).
- 2) Date, code number.
- 3) Technical Order date.
- 4) Rescission date.
- 5) Status completion date.
- 6) Reported manhours required to install each TCTO kit.

The manner in which these data were compiled, formatted and analyzed in delivering TCTO results annotated below, was summarized in Figure C-2 (appendix C). C-130E Fleet Applicability Data, are displayed in tabular form or frequency polygons below.

TCTO Installation Histories (Intermediate and Depot Levels)

Data synthesized/compiled and printed out via computer, were manually plotted into frequency polygons. These polygons as reflected in Figures 10 and 11 depict: a) Accumulated numbers of TCTO kits installed at the intermediate maintenance level during the calendar years of 1962 through 1976, b) accumulated numbers of TCTO kits installed at the depot maintenance level during 1962 through 1976, c) composites of intermediate and depot level TCTO kits installed during each year of the fifteen year period, d) hours expended to install TCTO kits at the intermediate maintenance level during each of the 15 years, e) hours expended to install TCTO kits at the depot during the 1962-1976, and f) a composite of total hours expended to install TCTO's at the intermediate and depot maintenance levels. These figures provide comprehensive compendia of TCTO installation numbers, and hours accrued by 308 C-130E aircraft.

Installed TCTO Kits (Intermediate and Depot Level)

It becomes apparent by inspection of Figure 10 that modifications at the intermediate level were sporadic. This is principally due to contracting methods employed by the Systems Program Office (SPO) as well as phasing/scheduling of kit production line. The multi-modal frequencies noted during 1966, 1968, 1971 and 1974 reflect the manufacturer's production line surges and resultant batch installations that occur. These multi-modal distributions as depicted in Figure 10 have been observed in other weapon systems such as the B-52's, and Minuteman.

Accumulated TCTO kits installed at the depot during the 15 year period reflect some characteristics of a normal distribution with a truncated number of kits installed during 1971. Apparent within this figure is the obviously smaller number of kits installed at the depot as compared to that experienced at the intermediate maintenance level. However, this can not be used as an indicator of concomitant TCTO hour accumulations that one might expect in the area of intermediate maintenance. Although most TCTO kits are installed at the intermediate maintenance level, the average installation hours per TCTO is one order of magnitude less than that experienced at the depot. Less than 900 TCTO kits were installed at the depot (1972) as compared to 4060 kits installed at the intermediate level during the peak year of 1966. It is suspected that the marked reductions of depot installed kits (apparent during the 1973 through 1976 time period) merely represent an intermission or interlude and that a rise in depot installed TCTO kits or modifications can be expected in the future. Further, apparent from the acquired data is the fact that TCTO kits to be installed into designated aircraft at the depot, accumulate or are queued, scheduled and implemented on a more consistent basis than that experienced at the intermediate level.

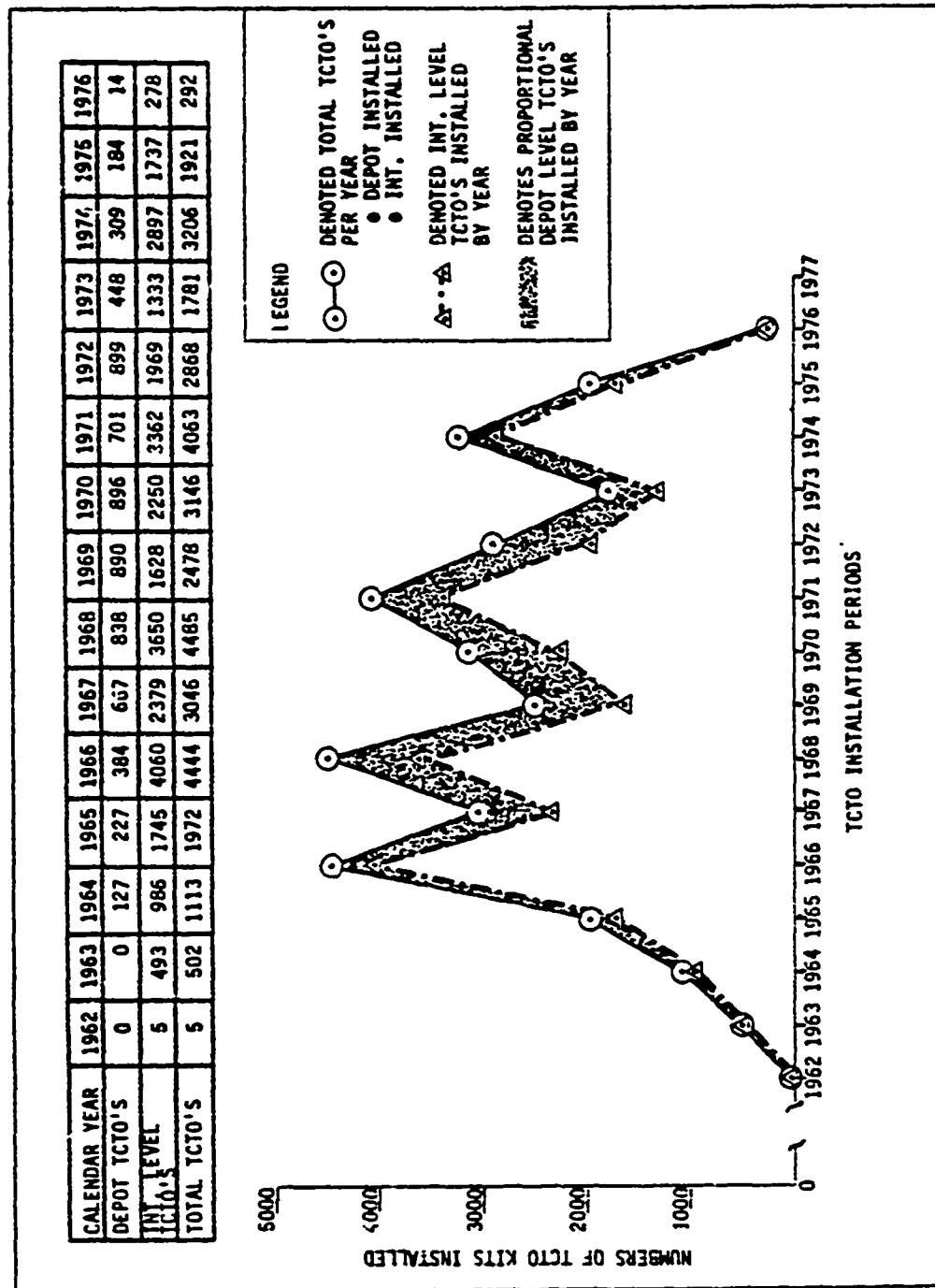


Figure 10 C-130E TCTO'S INSTALLED - INTERMEDIATE AND DEPOT LEVELS

Figure 10 provides a composite overview of all TCTO kits installed between 1962 and 1976. This figure provides an excellent illustration of the relative proportional differences of numbers of intermediate and depot level kits installed during any given year between 1962-1976. The table on this figure provides a numerical summary of numbers of kits installed by maintenance level during each of the 15-year intervals.

TCTO Installation Hours

The multi-modal distribution of accumulated hours to install kits at the intermediate level and depicted in Figure 11, parallel somewhat the same multi-modal distributions found in Figure 10. Peaks of 81,570 and 85,814 hours occurring during 1966 and 1968 respectively, represent the highest installation/manhours profiles that have occurred throughout the reporting period. Significant reductions in TCTO installation hours per year occurring from 1969 through 1976 follow the general downward trend of numbers of kits installed during the same reporting period. The relatively low numbers of accumulated installation hours per year, when compared with the high number of TCTO kits installed per year clearly demonstrate that modifications accomplished at the intermediate level are limited to those kits requiring less than 25 installation hours per kit.

Annual profiles of hours expended to install depot controlled kits reflect an inverse relationship to numbers of kits installed per annum. Significantly greater numbers of hours are expended at the depot than at the intermediate level. This is in spite of the fact, that fewer kits are installed at this maintenance echelon. Figure 11 clearly demonstrates that major modifications, planned and scheduled on the C-130E weapon system, are conducted under the auspices and control of AFLC depot repair sites. Further, it is apparent, that a latency in modification needs occurred with the C-130E aircraft. Dramatic increases in accumulated TCTO installation hours did not occur until after 1967 whereas intermediate installation hours reflect a more general or diffuse distribution earlier in the lifetime of the C-130E aircraft. This is as would be expected as the Aircraft Structural Integrity Program (ASIP), resulting in major modifications to the outer wings, center wing, empennage and fuselage did not occur until 1968. Furthermore, continued high depot consumption hours per year subsequent to 1968 reflect the on-going needs of depot modifications due to aircraft aging. Figure 11 provides a composite distribution of accumulated TCTO kit installation hours at both the intermediate and depot maintenance echelons.

A total of 4,253,582 kit installation hours were recorded against the 308 C-130E aircraft between 1962 and 1976. Depot accounts for 91% (3,888,374 hours) of all accountable installation hours.

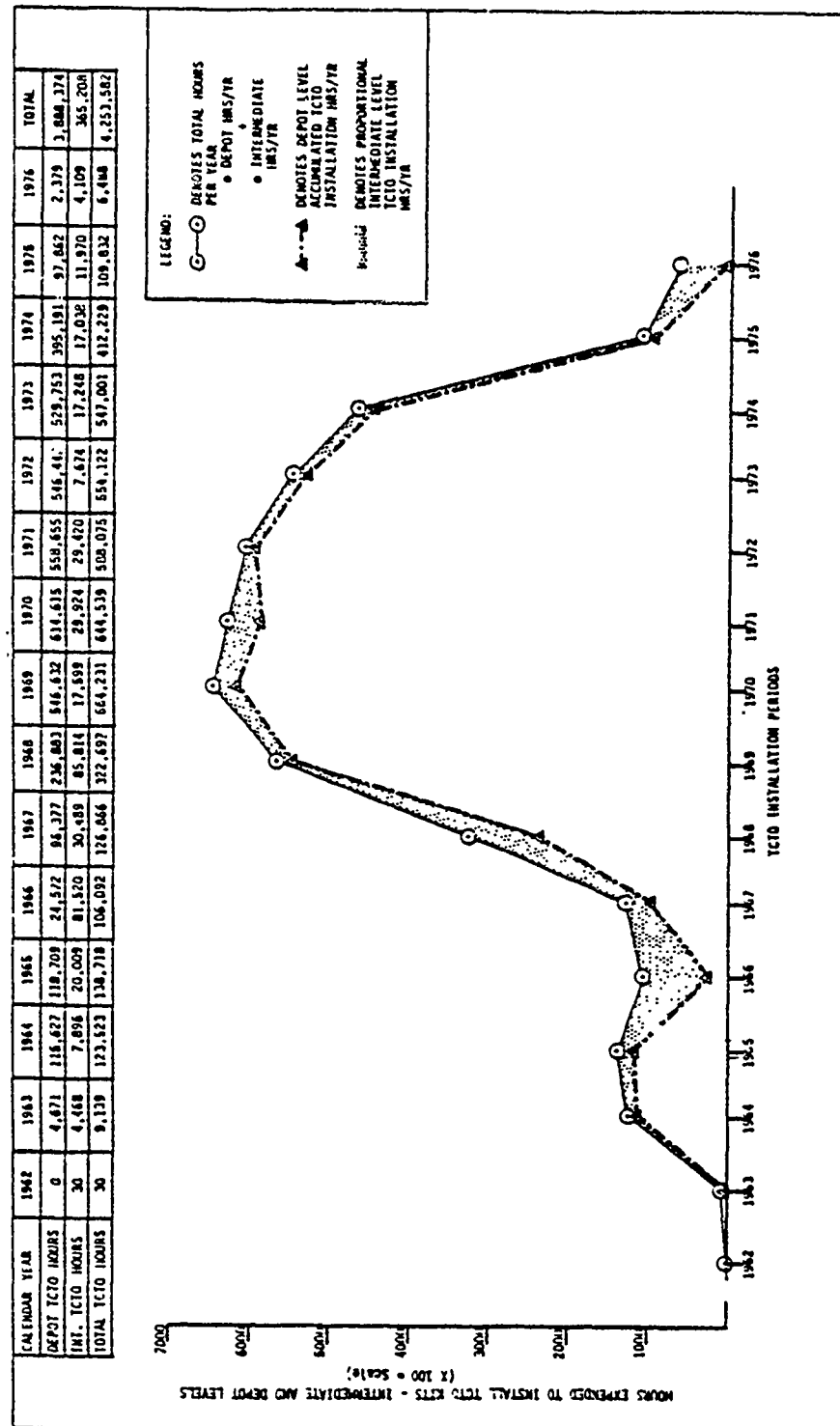


FIGURE 11 HISTORICAL INTERMEDIATE AND DEPOT LEVEL TCIO EXPENDITURE PROFILES (ACCUMULATED HOURS) - 1962 THROUGH 1976

DEPOT MAINTENANCE ACTIONS

As previously discussed in the computer processing section on depot data, two primary data categories were assembled: maintenance actions (tasks) and cost per flying hour. The cost results are covered in the applicable section and the maintenance actions (tasks) per 1000 flight hours and percent each system contributed to the total is shown in Table 5.

GROUND SUPPORT EQUIPMENT

Historical data on ground support equipment specifically dedicated to the C-130E were integrated within the total used. As in other areas of data uncovered within this study the cost in resources to acquire, process, and analyze data was prohibitive to the overall objectives.

To provide some insight into the type and quantity of equipment assigned, operating time, and cost, Table 6, is a composite of ground support equipment (GSE) information acquired during the base visits.

INSPECTION PROGRAM

During the time period of this study the maintenance inspections employed on the aircraft have been both fixed, such as preflight, basic postflight, etc., and variable covering the hourly postflight, periodic, phase, and isochronal concepts. Figure 12 shows the current maintenance and inspection programs. These programs provide a complete spectrum of review and each program contains inspections of some critical area peculiar to the program. The respective inspection task and flying hour interval at which each task will be accomplished is reflected in the Figure. The programmed depot maintenance (PDM) covers those areas that must be accomplished at the depot due to equipment, skills, tools, facilities, and/or economy. A majority of the fleet is on a 36 month PDM interval. A portion of the C-130E's are on a 24 month interval due to more severe operating environment/mission profiles. The analytical condition inspection (ACI) requirements are accomplished in conjunction with the PDM.

CORROSION

The C-130E Appendix C - Strengths, Weaknesses and Problem Area (1962-1976) of Reference 10 contains discussions on corrosion as they occurred chronologically starting with 1962 through the present. Since these data were narrative in nature and not statistical, D056E (AFM 66-1) was analyzed for additional information. Immediately it became obvious that statistically all corrosion actions and manhours

10 AFHRL-TR-77-40, C-130E Hercules Aircraft: Review of Published Literature and Structured Interviews.

TABLE 5 C-130E DEPOT MAINTENANCE REPAIR TASKS BY SYSTEM
(EXCLUDES ENGINES)

SYS. NO.	SYSTEM NAME	FY 1975-1976	
		MAINTENANCE ACTIONS/ 1000 FH	SYSTEM % OF TOTAL
11	AIRFRAME	2.128	0.36
12	COCKPIT AND FUSELAGE	4.135	0.71
13	LANDING GEAR	24.503	4.20
14	FLIGHT CONTROLS	7.566	1.20
22	TURBO PROP POWER PLANT	-	-
24	AUXILIARY POWER PLANT	7.014	1.20
32	HYDRAULIC PROPELLER	18.379	3.15
41	AIR CONDITIONING, PRESSURIZATION	22.466	3.85
42	ELECTRICAL POWER SUPPLY	6.459	1.11
44	LIGHTING SYSTEM	-	-
45	HYDRAULIC AND PNEUMATIC	11.126	1.91
46	FUEL	22.842	3.91
47	OXYGEN	7.716	1.32
49	MISCELLANEOUS UTILITIES	4.511	0.78
51	INSTRUMENT	13.171	2.26
52	AUTOPILOT	17.004	2.91
55	MAFUNCTION ANAL. & RECORDING EQUIP.	-	-
61	HF COMMUNICATIONS	4.507	0.77
62	VHF COMMUNICATIONS	0.538	-
63	UHF COMMUNICATIONS	5.114	0.88
64	INTERPHONE	1.454	0.25
65	IFF	2.361	0.40
66	EMERGENCY COMMUNICATIONS	3.026	0.52
69	MISC. COMMUNICATIONS	-	-
71	RADIO NAVIGATION	14.062	2.40
72	RADAR NAVIGATION	32.094	5.50
91	EMERGENCY EQUIPMENT	-	-
96	PERSONNEL EQUIPMENT	-	-
97	EXPLOSIVE DEVICES	-	-
*99	MISC.	351.951	60.25
	TOTAL	584.127	-

*NOTE: MISC. INCLUDES ITEMS FROM ALL SYSTEMS WHERE NO MATCH COULD
BE MADE BETWEEN NSN/WUC

TABLE 5 C-130E GROUND SUPPORT EQUIPMENT (TYPICAL UNIT)

<u>NOMENCLATURE</u>	<u>QUANTITY ASSIGNED</u>	<u>ESTIMATED OPERATING HOURS PER MONTH</u>	<u>UNIT COST</u>
MD-3	36	225	\$12,000.00
NF-2 Light	17	50	2,730.00
MC-1A Airc	6	25	4,032.00
MC-2A Airc	9	50	2,964.00
MA-1A GTC	6	3	24,308.00
H-1 Heater	36	250 Oct-Mar 0 Apr-Sep	2,542.00
MJ-1 Hyd Test St	1	1	11,774.00
AF/M27M-1 Jacking Manifold	2	30	6,677.00
HDU/13M Heater	2	120 Summer 0 Winter	3,796.00
MA-8 Air Cond	1	300 Summer	14,258.00
MC-7 Air Comp	1	5	5,376.00
MD-4 Mtr Gen	4	250 AMS	- -
MB-8 Air Comp	1	720	3,262.00
AM24T-8	2	60	11,794.00


<u>LEVEL</u>	<u>INSPECTION</u>	<u>INTERVAL</u>
ORGANI- ZATIONAL	PREFLIGHT THRUFLIGHT	BEFORE FIRST FLIGHT OF THE DAY BETWEEN FLIGHTS WHEN FLIGHT IS TO BE CONTINUED AND BASIC POSTFLIGHT IS NOT REQUIRED
	BASIC POSTFLIGHT PHASE/ISOCHRONAL SPECIAL INSPECTIONS	AFTER THE LAST FLIGHT OF THE FLYING PERIOD 300 HOURS (ANG)/ISOCHRONAL BASED ON UTILIZATION ACCOMPLISHED AT ACCRUAL OF SPECIFIED NUMBER OF FLYING HOURS OR LAPSE OF CALENDAR TIME
DEPOT	PROGRAMMED DEPOT MAINT (PDM)	24 AND 36 MONTHS
ORGANI- ZATIONAL	CONTROLLED INTERVAL EXTENSION (CIE)	42 AND 48 MONTHS
DEPOT	ANALYTICAL CONDITION INSP (ACI)	IN CONJUNCTION WITH PDM

FIGURE 12 C-130E MAINTENANCE AND INSPECTION PROGRAMS

were not discernible as some became part of other tasks. For a recent time period of C-130E data, only 1.21% of the total organizational tasks were identifiable as corrosion which in turn represented only .85% of the total aircraft system maintenance manhours.

The data system does allow for the identification of corrosion tasks and manhours but accurate reporting requires time and effort to separate and record the corrosion part of any repair task.

RELIABILITY DATA


Reliability as defined in AFM 11-1, Volume I  is: "The probability that a system, subsystem, or equipment will perform a required function under specified conditions, without failure for a specified period of time." This section of the report covers the statistical results via various parameters of components that did not meet that criteria.

The resultant analysis of processed AFM 66-1 data, both actual and normalized, has been divided into five major categories: a) organizational and intermediate failures, b) components repaired off base or NRTS, c) components condemned, d) material mission aborts, and e) percent of failures via when discovered. The first three categories are shown by system via three breakouts: a) per 1,000 flight hours, b) percent distribution, and c) per sortie. The fourth category has these same breakouts with an additional display of aborts via ground and flight per 1000 flight hours.

The fifth category required the grouping of both organizational and intermediate failures into four separate "when discovered" divisions: a) before flight, b) in-flight, c) between flight, and d) during an inspection. As with all categories/divisions within this report the definition of terms explicitly defines the respective makeup of codes used to arrive at the term.

Since specialized processing was required for this fifth category distribution and the normalization process would not lend meaningful results only the most current year was analyzed. Table E-1, Appendix E, displays the results by system.

Tables E-2 through E-4 display the failure statistics; E-5 through E-7 the components repaired off base or NRTS, E-8 through E-10 the condemned components; and E-11 through E-14 the material mission aborts.

 AFM 11-1, Volume I, USAF Glossary of Standardized Terms.

Following the same pattern as in the maintenance section, only those tables that require additional explanation or contain significant anomalies will be discussed.

Failures - Airframe (11)

During 1974, the failures in this system had a very significant increase over 1973, slightly over 100%, as indicated in Table E-2. Four major areas: cargo, wing in-board, nacelles, and doors (paratroop, main landing gear, crew) accounted for almost 54% of this increase. The primary malfunction modes were loose or missing bolts-nuts-screws and cracks. These types of malfunctions are indicative of wear out, as the C-130E was 13 years old in 1974. Although the rate did drop 28% the following year (1975), the rate is holding higher than the 15-year average value.

Failures - Air Conditioning, Pressurization (41)

The failure rate in this system for 1974 increased almost 95% over 1973, as shown in Table E-2. The major areas: engine anti-ice, bleed air, and cargo and flight compartments air conditioning controls accounted for 40% of the increase. Specifically, the ice detector probe, bleed air valves and filter, thermostat, blower motor, and temperature control box in the compartment air conditioning were the primary failure components. The significant feature with these failures, was that all had the same basic malfunction modes of broken or dirty. The resultant fix, which is not discernible from the data, was effective as the rate decreased the following year to a pre-1974 value.

Condemned Components

Components condemned are those that no longer perform their intended function and are either throw aways or are not presently economical to repair. Three systems: cockpit and fuselage (12), turbo prop power plants (22), and miscellaneous utilities (42), surfaced as the major change systems in Table E-8. Respectively, these systems increased 459% (1974 to 1975), 220% (1973 to 1974), and 114% (1973 to 1974). Further analysis of the data revealed that troop seats, cargo securing equipment, thermocouple and harnesses, and sun visors were the major contributors. Considering the previous years of operation and resultant use, these types of replacements would be expected. In all systems, the condemned value decreased significantly the following year.

Components Repaired Off Base

Components that are repaired off base result from one of several reasons: specifically prohibited, lack of parts or trained technicians or technical data, excess to base requirements, backlog, etc. Analysis of Table E-5, Appendix E, does show some fluctuation from one year to the next within a given system but no major anomalies. This semi-stable condition is probably the result of policy changes, revised manning, or supply fulfillment that corrects the problem.

SAFETY DATA

C-130E aircraft safety data were obtained from the Air Force Inspection and Safety Center (AFISC/SER) Norton AFB, California. The AFISC Computerized Aircraft Accident/Incident File contains detailed accident reports including narrative descriptions back to 1962 on all USAF aircraft accidents. In addition, AFISC has other historical safety records in various configurations.

The Air Force Safety Center provided complete C-130E accident information that covered the entire 1962 through 1976 time period. The information was provided in computer listing format including the narrative descriptions. The accident data provided was analyzed and three summary tables were developed: (1) Table 7 reflects the C-130E flight accidents and rates per 100,000 flying hours for 1962-1976; major/minor/total accidents; fatal accidents; and aircraft damage categories of destroyed/major/minor are reflected. (2) Table 8 shows the C-130E flight accidents by type, and includes a distribution of the various types of accidents for 1962-1976. (3) Table 9 contains the C-130E flight accidents by phase and includes a distribution of the total accidents by the various phases of flight for 1962-1976.

The safety aspect of this study was limited to C-130E flight accidents and not the other areas normally associated with the term safety, such as policy, procedures, etc. During the 15 years being studied, the total C-130E accidents numbered 70 for a 2.0 per 100,000 flying hour (FH) rate. Coincidentally, this was split 50-50 between major and minor. A total of 21 aircraft were destroyed for a rate of 0.6 per 100,000 FH, 15 sustained major damage, .43 rate, and 35 with minor damage, 1.0 rate. This sum is one greater than the number of accidents as one C-130E was destroyed that was not counted as an accident, because it was the second aircraft and the principle aircraft was charged with the accident.

A distribution of the type of accidents revealed collision (all kinds) for 39 percent and landing (all kinds) 28 percent as the two major contributors. For phase of operation, landing, as would be expected, accounted for 59 percent alone.

TABLE 7 C-130E FLIGHT ACCIDENTS SUMMARY AND RATES PER 100,000 FLYING HOURS

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	TOTAL 18 YEARS
MAJOR ACCIDENTS:																
NUMBER	0	1	2	2	6	6	4	4	2	1	4	1	4	0	0	26
RATE	-	1.2	0.9	0.6	1.1	1.4	1.3	1.6	0.8	0.4	1.8	0.5	2.4	-	-	1.0
MINOR ACCIDENTS:																
NUMBER	0	-	-	6	6	6	3	2	2	2	3	3	1	0	1	26
RATE	-	-	0.4	1.7	1.1	1.4	1.0	0.8	1.2	0.8	1.4	1.6	0.6	-	0.6	1.0
ALL ACCIDENTS:																
(MAJOR AND MINOR)																
NUMBER	0	1	2	8	10	10	7	6	4	3	7	4	5	0	1	70
RATE	-	1.2	1.3	2.3	2.3	2.0	2.3	2.4	2.0	1.2	2.2	2.1	3.0	-	0.6	2.0
FATAL ACCIDENTS:																
NUMBER	0	0	0	1	2	1	1	2	2	1	3	1	1	0	0	15
RATE	-	-	-	0.3	0.5	0.3	0.3	0.8	0.6	0.4	1.4	0.5	0.6	-	-	0.3
AIRCRAFT DAMAGED:																
(ESTIMATED AIRCRAFT):																
NUMBER	0	1	0	1	2	3	2	2	2	1	4	1	2	0	0	21
RATE	-	1.2	-	0.3	0.5	0.8	0.7	0.8	0.8	0.4	1.8	0.5	1.2	-	-	0.6
MAJOR DAMAGE:																
NUMBER	0	0	2	1	3	2	2	2	0	0	1	0	2	0	0	15
RATE	-	-	0.9	0.3	0.7	0.6	0.7	0.8	-	-	0.5	-	1.2	-	-	0.43
MINOR DAMAGE:																
NUMBER	0	0	1	6	6	6	3	2	3	2	3	3	1	0	1	26
RATE	-	-	0.4	1.7	1.1	1.4	1.0	0.8	1.2	0.8	1.4	1.6	0.6	-	0.6	1.0

*1 ACFT DESTROYED WAS A SECOND ACFT IN A MID AIR COLL. AND WAS NOT CHARGED WITH AN ACCIDENT.

TABLE 8 C-130E FLIGHT ACCIDENTS SUMMARY BY TYPE OF ACCIDENT

TYPE ACCIDENT	1962		1963		1964		1965		1966		1967		1968		1969		1970		1971		1972		1973		1974		1975		1976		TOTAL 15 YEARS
	NR	S	NR	S	NR	S	NR	S	NR	S	NR	S	NR	S	NR	S	NR	S	NR	S	NR	S	NR	S	NR	S	NR	S	NR	S	
LOSS OF DIRECTIONAL CONTROL (GROUND)																															
WHEEL UP LANDING					1	25																									
HARD LANDING					1	25																									
LANDING GEAR COLLAPSE OR RETRACT					2	50		2	22																						
UNDER SHOOT																															
COLLISION WITH GROUND OR WATER																															
AIRBORNE COLLISION IN THE AIR																															
OTHER COLLISION			1	100																											
FIRE OR EXPLOSION (GROUND)																															
FIRE OR EXPLOSION (IN FLIGHT)																															
SPIN OR STALL																															
AIRBRAKE FAILURE																															
OTHER																															

NOTE: THERE CAN BE UP TO THREE DIFFERENT TYPE ACCIDENTS CODED INTO EACH ACCIDENT RECORD THEREFORE TOTALS OF TYPE ACCIDENT CATEGORIES BY YEAR CAN BE GREATER THAN THE TOTAL NUMBER OF ACCIDENTS.

TABLE 9 C-130E FLIGHT ACCIDENTS BY PHASE OF OPERATION

PHASE OF FLIGHT	1962		1963		1964		1965		1966		1967		1968		1969		1970		1971		1972		1973		1974		1975		1976		1977	
	S	%	S	%	S	%	S	%	S	%	S	%	S	%	S	%	S	%	S	%	S	%	S	%	S	%	S	%	S	%	S	%
ENGINES RUNNING NOT TAXIING																																
TAXIING																																
TO TAKEOFF																																
FROM LANDING																																
OTHER																																
TAKEOFF																																
ROLL																																
INITIAL CLIMB																																
DISCONTINUED																																
FLIGHT																																
NORMAL																																
LOW LEVEL FLIGHT																																
DESCENT																																
LANDING																																
APPROACH																																
FLAREOUT																																
ROLL																																
GO AROUND																																
PHUNGEATED (TOUCH & GO)																																
IMPRUNGEATED (FUEL STOP INTENDED)																																

HUMAN RESOURCES

SCOPE OF DATA AND INFORMATION SEARCH

Data search and acquisition of historical C-130E human resource data encompassed: a) Operations and maintenance manpower profiles (officers, enlisted, and civilian personnel), b) extant USAF Air Force Specialty Code (AFSC) and skill level distribution patterns, c) distributions of assigned C-130E maintenance personnel profiles within all C-130 Military Tactical Airlift Wing work centers (e.g., Organizational, Field, and Avionics Maintenance Squadrons), d) USAF C-130E training histories, e) C-130E operational flight crew and maintenance manloading ratios per unit of equipment (UE), and f) attained formal educational profiles of Air Force officer and enlisted personnel.

Resident/technical training profiles and costs, germane to the C-130 weapon system were not acquired. Archival data contained in the Military Personnel Center (MPC), (Randolf AFB, Texas), automated repositories, were not acquired due to prohibitive data assemblage and printing costs. Further, additional data not acquired for the reason stated above included: a) Lists of total active federal military service times of C-130 officer and enlisted personnel, and b) governmental courses of record completed by AFSC category.

Attempts were made to acquire these historical data via other sources during field trips to operational Military and Tactical Airlift Wings within CONUS, viz: a) 62nd Military Airlift Wing, McChord AFB, Washington, b) 314th Tactical Airlift Wing, Little Rock AFB, Arkansas, and c) 317th Tactical Airlift Wing, Pope AFB, North Carolina.

Extensive data were acquired from the 3785th Field Training Group, USAF School of Applied Aerospace Sciences, Sheppard AFB, Texas. This included C-130A/H FTD training production reports (up to 27 months) encompassing monthly summaries of students graduated per month and numbers of training hours completed.

C-130E OPERATIONS AND MAINTENANCE MANPOWER

Operations and maintenance manpower data of assigned personnel were collected via field trips to: a) McChord AFB, Washington, b) Little Rock AFB, Arkansas, and c) Pope AFB, North Carolina. This included acquisition of the numbers of flight officers and enlisted personnel assigned per C-130E aircraft as well as numbers of officers, enlisted and civilian personnel assigned under the local Deputy Commander for Maintenance (DCM). Maintenance manpower assigned under the DCM were acquired, collated, and analyzed by work center from monthly Maintenance Digest reports (RCS-MAC-LGX-M 7103) emanating from the 314th

Tactical Airlift Wing, Little Rock AFB, Arkansas, and the 317th Tactical Airlift Wing, Pope AFB, North Carolina. Figure 13 provides an illustrative compendium of how these Maintenance Digest reports were used in establishing assigned manpower factors per C-130E aircraft, hereafter referred to as Unit of Equipment or UE. The collection and statistical protocol utilized throughout this phase of analyses is shown in Appendix F.

Manloading constants derived from the 11 months of Little Rock and Pope AFB Maintenance Digest reports (RCS-MAC-LGX-M 7103), served as the basis for developing projected manpower profiles based upon numbers of possessed C-130E aircraft during the years of 1962 through 1976. Projected annual maintenance manpower results for officers, enlisted (all skill levels) and civilian personnel are contained in Table 10. Personnel weight factors (constants) per UE are also reflected in this table.

Estimated numbers of flight crews encompassing Pilots (AFSC 1055B), Co-pilots (AFSC 1053B); Navigators (AFSC 1545G), Flight Engineers (AFSC 113X0A), and Loadmasters (AFSC 114X0), were developed via actual aircraft flying hours accrued per day during the entire 15 year period (1962-1976). Operational flight crew compositions and numbers were predicated on the following:

<u>Condition</u>	<u>Crew Ratio/UE</u>
1. C-130E Flying Hour Rate per day - - - Less than 4.0 hours/day.	2.0
2. C-130E Flying Hour Rate per day - - - 4.0 to 4.9 hours/day.	2.5
3. C-130E Flying Hour Rate per day - - - 5.0 hours plus per day.	3.0

Table 11 and Figures 14 and 15 depict operational flight crew numbers, total personnel numbers and numbers of personnel by AFSC during the 1962-1976 time period.

C-130 FIELD TRAINING DETACHMENT (FTD) PRODUCTIONS

Data acquired from the 3785th Field Training Group, USAF School of Applied Aerospace Sciences, Sheppard AFB, Texas provided the only Air Force training data baseline defined during this study phase. Field Training Detachment Production data (ATC Form 396A) encompassing six C-130 FTD's and three Mobile Training Teams (MTT's) were collated, analyzed, and entered into table format as depicted in Table 12.

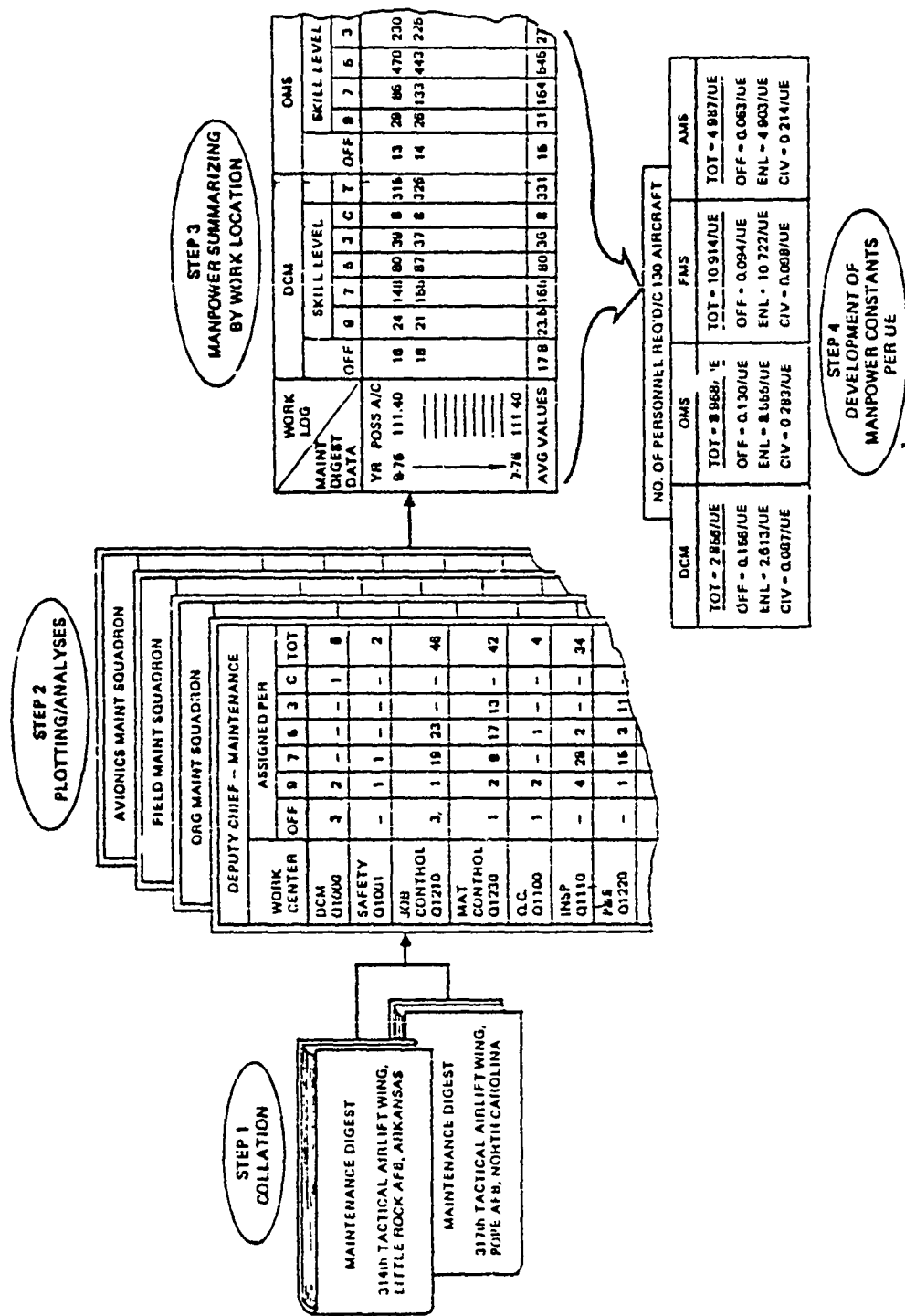


FIGURE 13 C-130E MAINTENANCE MANPOWER DATA ACQUISITION AND ANALYSES METHODOLOGY

TABLE 10 C-130E ASSIGNED MAINTENANCE MANPOWER PROFILES -
(LITTLE ROCK AFB, ARKANSAS AND POPE AFB, NORTH CAROLINA)

[illegible]

TABLE 11 PREDICTED C-130E OPERATIONAL FLIGHT CREW PERSONNEL PROFILES - 1962-1976

YEAR	NO. OF UE POSSESSED	UTE RATE		CREW RATIO	NO. OF CREWS	TOTAL NO. OF PERSONNEL	CREW COMPOSITION (BY AFSC)			
		HRS/ MO.	HRS/ DAY				1055B	1053B	1545G	113X0A
1962	11	190	6.333	3.0	33	165	33	33	33	33
1963	83	83	2.766	2.0	166	830	166	166	166	166
1964	226	85	2.813	2.0	452	2260	452	452	452	452
1965	315	92	3.066	2.0	630	3150	630	630	630	630
1966	295	126	4.200	2.5	737.5	3687	738	738	737	737
1967	291	105	3.500	2.0	582	2910	582	582	582	582
1968	279	93	3.100	2.0	558	2790	558	558	558	558
1969	289	74	2.466	2.0	578	2890	578	578	578	578
1970	304	67	2.233	2.0	608	3040	608	608	608	608
1971	323	64	2.133	2.0	646	3230	646	646	646	646
1972	298	61.5	2.050	2.0	596	2980	596	596	596	596
1973	293	54.2	1.806	2.0	586	2930	586	586	586	586
1974	295	48.0	1.600	2.0	590	2950	590	590	590	590
1975										
1976	297	46.2	1.540	2.0	594	2970	594	594	594	594

1. Crew ratio of 2.0 crews per aircraft:

a) UTE rate of less than 4.0 hours per day per aircraft - crew ratio = 2.0

2. Crew ratio of 2.5 crews per aircraft:

a) UTE rate of no greater than 4.9 hours per day per aircraft nor less than 4.0 hours per day per aircraft

3. Crew ratio of 3.0 crews per aircraft:

a) UTE rate of equal to or greater than 5.0 hours per day per aircraft

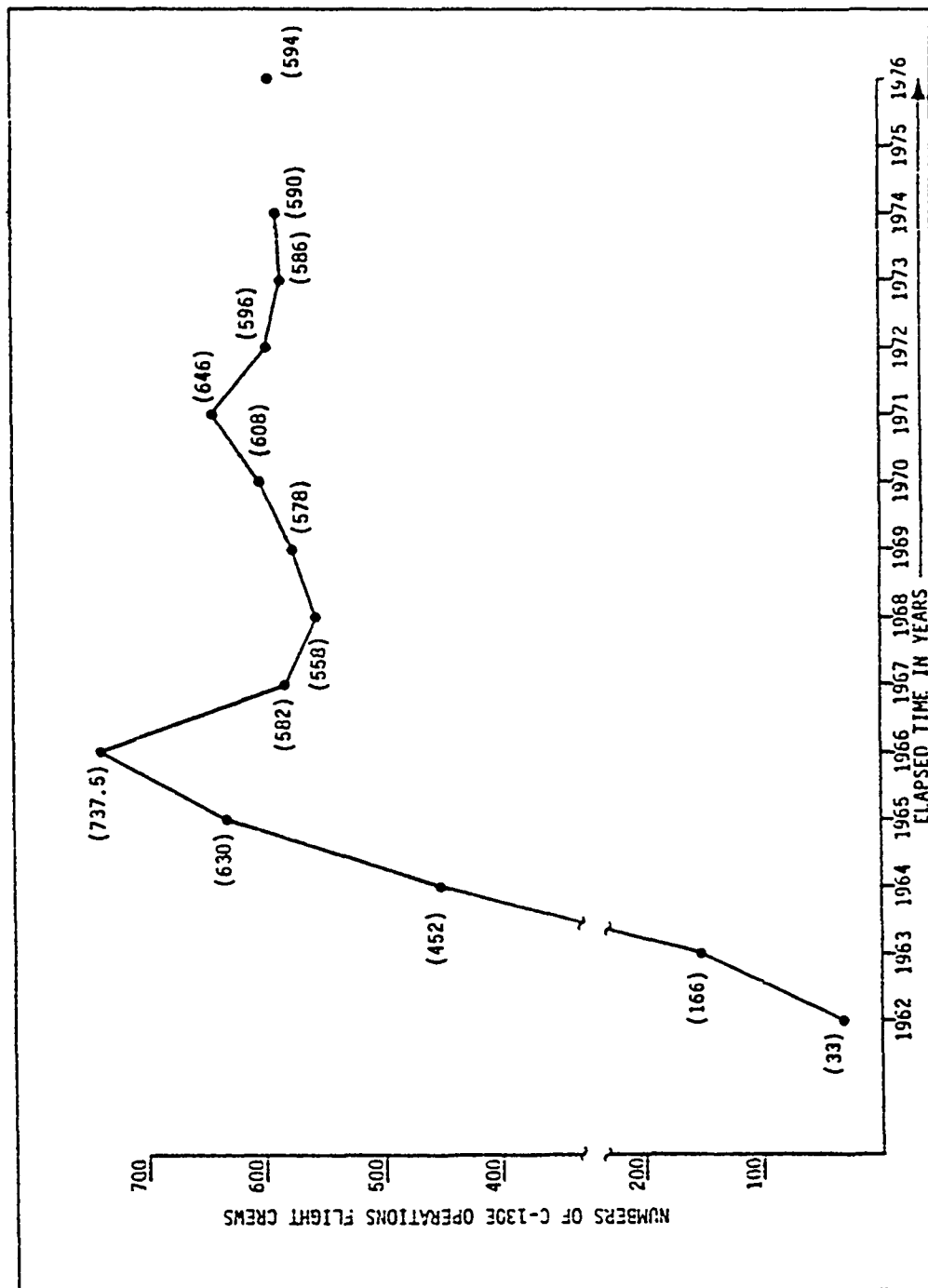


FIGURE 14 PREDICTED C-130E OPERATIONAL FLIGHT CREW PROFILES - 1962-1976

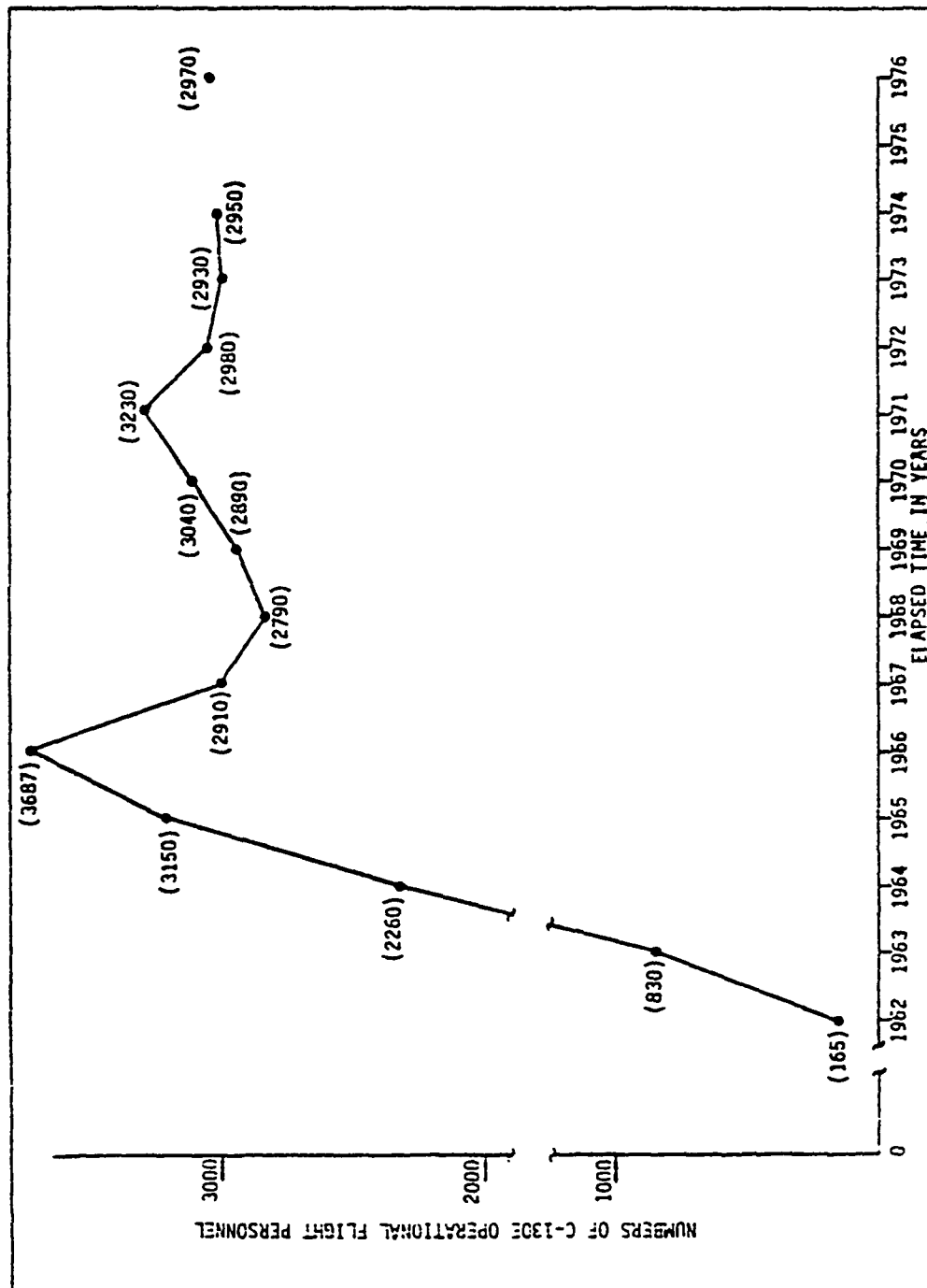


FIGURE 15 PREDICTED C-130E OPERATIONAL FLIGHT CREW PERSONNEL PROFILES - 1962 - 1976

TABLE 12. NEAR TERM FTD TRAINING HISTORIES

STD	TRAINING PRG.	PLAN	1		2		3		4		5		6		7		8		9		GROSS/ HRS/ MO.
			GRDS	STUDENT HRS.	GRDS	STUDENT HRS.	GRDS	STUDENT HRS.	GRDS	STUDENT HRS.	GRDS	STUDENT HRS.	GRDS	STUDENT HRS.	GRDS	STUDENT HRS.	GRDS	STUDENT HRS.	GRDS	STUDENT HRS.	
1	JRE	131	1120	93	5177	158	5232	60	3423	88	3235	77	5965	37	2014	90.8/3872					
2	ATC	48	2193	113	4656	106	4656	106	2112	135	4741	63	1828	39	971	96.7/1869					
3	ATC	48	2193	103	4100	103	4100	135	3248	35	2201	28	846	12	386	71.4/3016					
4	ATC	48	2193	117	4397	135	4876	69	3069	51	1663	55	2362	32	1562	75.5/3029					
5	ATC	48	2193	119	4452	135	4876	69	3069	99	2182	24	733	39	1668	73.7/2645					
6	ATC	48	2193	111	4026	111	4026	89	4050	92	2385	66	2514	37	1746	79.5/3181					
7	ATC	48	2193	104	3462	141	6822	141	6822	92	2385	62	2866	36	1722	96.3/3498					
8	ATC	48	2193	93	3260	139	4174	63	3636	124	4324	93	3260	70	3182	94.7/3594					
9	ATC	48	2193	93	3018	139	4174	63	3636	37	2888	86	4194	43	2405	75.1/3489					
10	ATC	48	2193	112	3936	130	5554	72	3984	42	2148	115	6043	78	3128	83.9/4000					
11	ATC	48	2193	82	3314	130	5554	117	6043	37	2888	86	4194	43	2405	75.9/3490					
12	ATC	48	2193	107	6032	132	6084	132	6084	53	2150	89	4355	66	2686	83.1/3832					
13	ATC	48	2193	107	5196	135	5196	100	4441	64	2603	47	1710	41	1650	82.0/3560					
14	ATC	48	2193	63	3306	109	3824	109	3824	166	5916	2482	2482	21	1050	85.0/2118					
15	ATC	48	2193	45	2652	87	3626	87	3626	84	3111	45	1409	60	2848	96.4/4401					
16	ATC	48	2193	103	5206	99	4018	99	4018	83	4096	75	4624	43	1962	88.2/2715					
17	ATC	48	2193	117	5404	98	3156	98	3156	106	3013	108	3360	76	918	80.6/4227					
18	ATC	48	2193	186	5281	125	4507	125	4507	106	3479	170	3202	81	2546	90.8/3414					
19	ATC	48	2193	151	5106	162	7307	162	7307	118	6056	111	3251	81	2546	118.0/4161					
20	ATC	48	2193	103	5074	173	7275	173	7275	199	2012	107	5229	140.5	5200	140.5/5200					
21	ATC	48	2193	124	5411	155	7108	155	7108	132	4444	83	2849	123	54353	145.5/6148					
22	ATC	48	2193	50	5096	76	7261	76	7261	74	2872	69	3275	77.0	4406	77.0/4406					
23	ATC	48	2193	50	5096	76	7261	76	7261	54	1834	77	3675	89.0	4195	89.0/4195					
24	ATC	48	2193	73	3463	146	6729	146	6729	42	2314	24	3832	87.5	4266	87.5/4266					
25	ATC	48	2193	58	4320	58	4320	58	4320	59	2710	104	3375	98.5	4552	98.5/4552					

Q 2nd Graduate/ME/Month

12.48 Training hrs/06/Month

Q 2nd Graduate/ME/Month [297 A/C for 1976]

12.48 Training hrs/06/Month

Q 2nd Graduate/ME/Month

12.48 Training hrs/06/Month

Yield: 1.0 g (10%) of 1,2-dibromo-1,2-dichloroethane, mp 102.7°C.

Y lbs. expended per month = 3.75/100 lbs. over a 21/ month period (per 100 lb. lot) { 40.484 lbs/100 }

Historical data depicting numbers of graduates and total student hours per month were plotted against each of the aforementioned FTD/MTT designated areas. Mean values of numbers of airman graduates and student hours per month were established for the periods of July 1974 through September 1976. Resultant values, viz, average numbers of student graduates per month, coupled with average numbers of student hours expended per month were used to estimate FTD training profiles for the years of 1962 through 1976.

MAINTENANCE MANPOWER RESOURCES

Discrete numbers of officer, enlisted and civilian personnel assigned to the C-130E operational weapon system were derived on a Unit Equipment (UE) basis. Table 10, depicts the numbers of officers, enlisted and civilians contained within each major work location (viz: DCM, OMS, etc.). It further illustrates the mean numbers of maintenance personnel within each major location during the period of September 1975 through July 1976. Resultant calculations show that an average of 27.72 maintenance personnel were required per possessed aircraft (merging of Little Rock and Pope AFB data). The numbers of maintenance personnel per C-130E aircraft was further defined into those proportional values of personnel required at the DCM, OMS, FMS and AMS work locations, namely: 1) DCM factor 2.856 personnel/UE; 2) OMS - 8.968 personnel/UE; 3) FMS - 10.914 personnel/UE; and 4) AMS - 4.987 personnel/UE. (Total = 27.72 personnel/UE.)

The relative participating grade-in-rank (officer, enlisted and civilian personnel) constituting each of the maintenance personnel/UE factors noted above are annotated below:

<u>Officer/Enlisted/Civilian Personnel Category</u>	<u>Personnel Weight Factor Per C-130E Aircraft</u>
o Officer Personnel-All Work Centers-----	0.442 Personnel/UE
o Enlisted Personnel	
Skill Level 9-All Work Centers -----	0.918 Personnel/UE
Skill Level 7-All Work Centers -----	5.679 Personnel/UE
Skill Level 5-All Work Centers -----	14.714 Personnel/UE
Skill Level 3-All Work Centers -----	5.557 Personnel/UE
o Civilian Personnel-All Work Centers ----	<u>0.412 Personnel/UE</u>
Total =	27.722 Maintenance Personnel/UE

These personnel weight constants above, enabled the development of estimates of total maintenance personnel required by year (1962-1976) based upon the numbers of C-130E aircraft possessed during each of the 15 year period. Table 13 and Figure 16 provide synopses of estimated numbers of maintenance personnel required to maintain and control the C-130E weapon system. These numbers derived via this methodology then served as the basis for developing officer, enlisted and civilian pay and allowances per each of the 15 years (1962-1976). Those results are reflected in Task VI - Life Cycle Cost Analysis.

OPERATIONS MANPOWER RESOURCES

Manpower resource estimates/profiles of C-130E flight crews consisting of five AFSC's per crew were derived. This included: a) Pilot - AFS 1055B, b) Co-pilot - AFS 1053B, c) Navigator - AFS 1545G, d) Flight Engineer - AFSC 113X0A, and e) Loadmaster - AFSC 114X0. Refer to Table II and Figures 14 and 15 for estimated numbers of operational flight crews and concomitant numbers of officer and enlisted personnel profiles extant within the C-130E weapon system during the 1962 through 1976 time period. An average crew ratio of 2.0 per C-130E aircraft was used to determine operation crew manpower loading with the following exceptions. Crew ratios of 3.0 and 2.5 were used during the years of 1962 and 1966, respectively, as the utilization rate, i.e., flying hours per day exceeded 4.0. C-130E weapon system utilization rates previously depicted (Table 11) were derived from AFM 65-110, "Standard Aerospace Vehicle and Equipment Inventory, Status, and Utilization Reporting." Back in Figures 14 and 15 are the obvious by-modal points of 1966 and 1971. The former modal point is largely due to the high C-130E utilization rate of 4.2 hours/aircraft per day at an estimated crew ratio of 2.5 per aircraft. The 1971 modal point is due solely to the large numbers of possessed C-130E aircraft during this period (namely 323) at the standard crew ratio of 2.0 per aircraft.

Analyses of these data indicate a general leveling off of flight crew Air Force Specialty Codes (AFSC's) between 1973 and 1976. The numbers of C-130 flight crews and resultant total numbers of AFSC's were reduced by approximately 8.0% (260 personnel - 52 crews) since 1971. An associated aircraft flight utilization rate per day during this same period has undergone a 27.80% reduction. The reported daily flight utilization rate of 4.2 hours/day during the 1966 time period reflects the resultant operations manpower profile buildups during 1966. A total of 444,283 C-130E flying hours were logged in 1966 with an averaged possessed level of 295 C-130E aircraft. More flying hours/UE were logged at this time than any years prior to or subsequent to this time period.

TABLE 13 C-130E ESTIMATED MAINTENANCE MANPOWER PROFILES (OFFICERS ENLISTED AND CIVILIAN PERSONNEL)
(1962-1976)

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	5'
OFFICERS	4.66	36.646	99.89	139.23	139.36	128.42	123.32	127.74	141.37	142.77	131.71	129.666	130.36	130.832	131.27	0.442
CIVILIAN PERSONNEL																
SEILL LEVEL 9	10.000	76.194	207.630	289.179	276.810	267.130	264.127	265.302	279.872	296.811	273.664	268.070	270.810	271.730	272.644	0.018
SEILL LEVEL 7	82.410	471.267	1,023.664	11,788.046	1,679.306	1,632.609	1,604.411	1,611.231	1,796.416	1,834.317	1,692.342	1,683.967	1,675.306	1,680.944	1,686.663	5.679
SEILL LEVEL 6	181.844	1,221.262	3,325.345	4,654.01	6,340.830	6,281.774	6,106.300	6,012.310	6,473.866	6,782.622	6,304.772	6,311.282	6,340.830	6,365.344	6,370.868	14.716
SEILL LEVEL 3	61.117	481.231	1,296.00	13,790.415	1,699.315	1,617.807	1,600.403	1,606.972	1,680.328	1,794.911	1,655.946	1,630.801	1,630.316	1,644.872	1,648.479	6.667
CIVILIAN PERSONNEL	4.932	24,166	93,112	179,700	131,640	119,892	116,948	119,048	129,210	133,076	122,716	120,716	123,640	121,862	722,264	0.412
	206	2,203	6,765	8,732	9,178	8,648	7,732	8,011	8,426	8,965	8,262	8,110	8,176	8,206	8,233	27,222

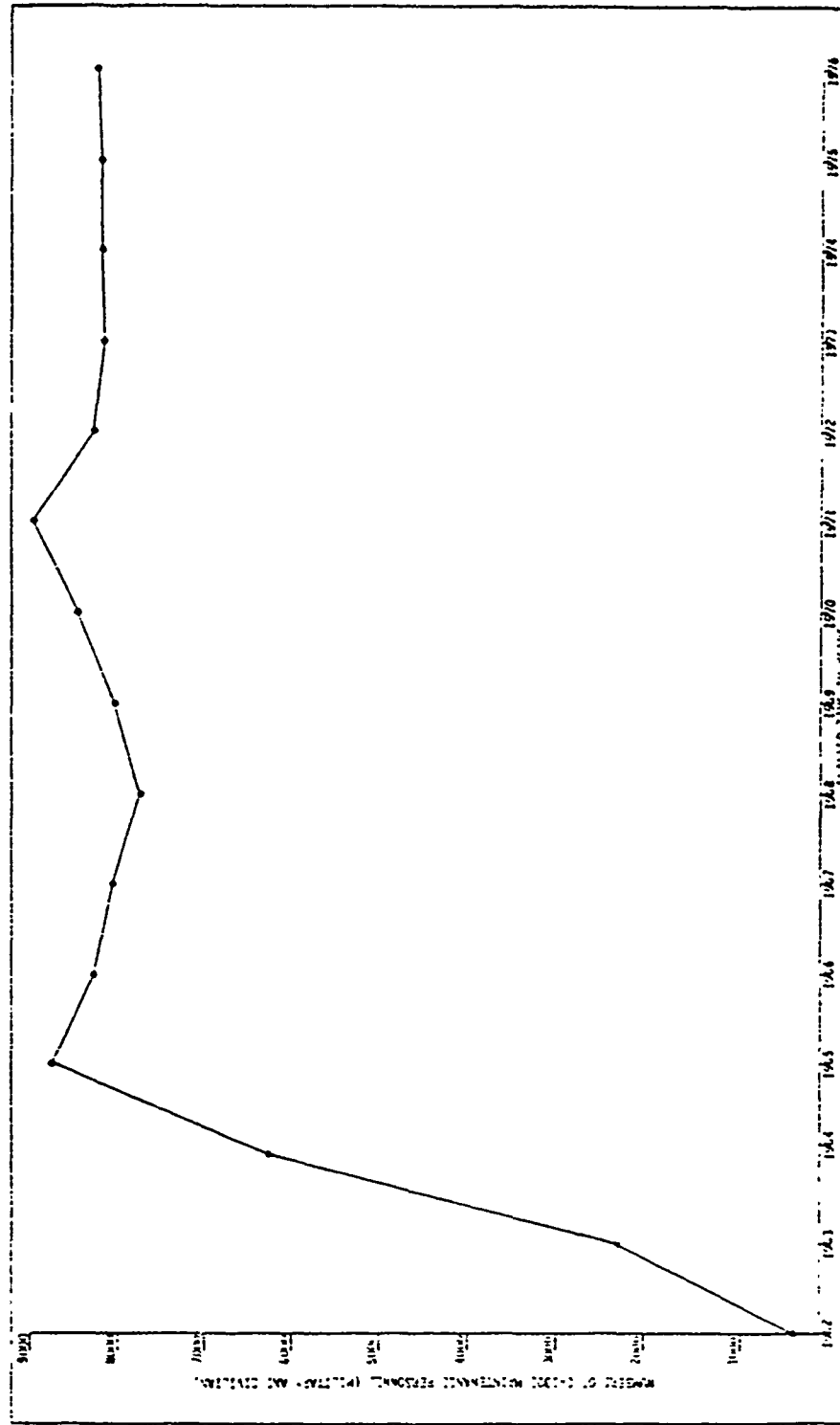


FIGURE 16 PROJECTED C-130E MAINTENANCE MANPOWER PROFILES - 1962 THROUGH 1976

Training (Field Training Detachments) - C-130

Analytical results from the FTD histories, were previously discussed (Table 12). Data acquired within the periods of July 1974 through September 1976 demonstrated that six C-130 FTS's and three Mobile Training Teams (MTT's) experienced an overall average of 85.65 enlisted graduates per month (each FTD/MTT), at an average monthly expenditure rate of 3707 trainee hours. These factors, used as parametric (constant) values, served as the statistical baseline for determining historical monthly and yearly C-130 FTD trainee and hour profiles during the 1962-1976 time period. These experience data enable definition of the following estimates:

TABLE 14 C-130 FIELD TRAINING DETACHMENT GRADUATES/ TRAINEE HOUR ESTIMATES

ITEM/NOMENCLATURE	MONTHLY VALUES	YEARLY VALUES
1. Trainee Graduates/FTD	85.65 Trainees	1 028 Trainees
2. Trainee Hrs/FTD	3,707 Hrs.	44, '84 Hrs.
3. CONUS FTD's Profiles		
• CONUS FTD GRD's	513.90 Trainees (FTD GRDS/Mo) X (6)	6,167 Trainees (FTD GRDS/Mo) X (6) X (12)
• CONUS FTD Trainee Hrs.	22,242 Hrs. (Trainee Hrs/FTD) X (6)	266,904 Hrs. (Trainee Hrs/FTD) X (6) X (12)
Where: 6 = No. of C-130 FTD's within CONUS 12 = No. of Months per Year		

The estimated expenditure of 266,904 FTD trainee hours (all C-130 models) is the equivalent to 142.576 man years. (1872 hrs = 1 man year.) The C-130E fleet of 297 aircraft in 1976 constitutes 45 percent of the total C-130 weapon system (models AC-130A/H through WC-130H). This proportional value (0.45) when applied to the estimated annual FTD trainee factor of 266,904 trainee hours reduces the C-130E 1976 FTD trainee value to 120,107 trainee hours expended to graduate 2,775 C-130E maintenance and support personnel at an average rate of 231 graduates/month.

Educational Background

Data provided to the Boeing Experience Analysis Center (EAC) by the Computational Sciences Division, Air Force Human Resources Laboratory, Air Force Systems Command (Lackland AFB, Texas), were used to establish the raw score/proportional distributions of 13 educational levels achieved by maintenance officers classified within three Air Force Specialty (AFS) categories and enlisted personnel classified under 30 AFS categories. The following summarizes the officer and enlisted AFS personnel wherein USAF world wide educational background data were acquired.

AFSC

NOMENCLATURE

- Officer Personnel

- | | |
|-------------------|----------------------------------|
| 1. 4016/4036/4616 | Aircraft Maint. Staff Officer |
| 2. 4024/4044 | Aircraft Maint. Officer |
| 3. 4096 | Deputy Commander for Maintenance |

- Enlisted Personnel

- | | |
|-----------|---|
| 1. 324X0 | Precision Measuring Equipment
Specialist/Technician |
| 2. 325X0 | Automatic Flight Control Systems
Specialist/Technician |
| 3. 325X1 | Avionics Instruments Systems
Specialist/Technician |
| 4. 32591 | Auto Flight Control/Avionics
Instruments Systems Superintendent |
| 5. 328X0 | Avionics Communications, Systems
Specialist/Technician |
| 6. 328X1 | Avionics Navigations System
Specialist/Technician |
| 7. 328X4 | Avionics Inertial and Radar
Navigation Systems Specialist/
Technician |
| 8. 32894 | Avionics Communications-Navigation
Systems Superintendent |
| 9. 341X3 | Trainers, Simulator, Analog Flight |
| 10. 341X4 | Trainers, Simulator, Digital Flight |
| 11. 341X6 | Digital Navigation/Tactics Training
Devices |
| 12. 34198 | Trainers, Superintendent |
| 13. 423X0 | Aircraft Electrical Repairman/
Technician |
| 14. 423X1 | Aircraft Environmental Systems
Specialist/Technician |
| 15. 423X2 | Air Crew Egress Systems |

AFSCNOMENCLATURE**- Enlisted Personnel (cont'd)**

16. 423X3	Aircraft Fuel Systems Specialist/ Technician
17. 423X4	Aircraft Pneudraulic Systems
18. 423X5	Aerospace Ground Equipment
19. 42395	In-Flight Refueling Systems Superintendent
20. 426X0	Aircraft Propeller Systems Specialist/Technician
21. 426X2	Jet Engine Specialist/Mechanic/ Technician
22. 42692	Jet Engine Superintendent
23. 431X1F	Aircraft Maintenance Specialist/ Repairman/Technician (Turbo-Prop Aircraft)
24. 43191	Aircraft Maintenance Superintendent
25. 531X0	Machinist
26. 531X1	Metals Processing Specialist/ Technician
27. 531X3	Airframe Repair Specialist/ Technician
28. 531X4	Corrosion Control Specialist/ Technician
29. 531X5	Non-Destructive Inspection Specialist/Technician
30. 53195	Metal Working Superintendent

Education histories of the 30 enlisted AFSC personnel encompassed 11 years (June 1966 through June 1976). Educational levels achieved by three officer AFSC's encompassed the 15 year reporting period June 1962 through June 1976. (Reference Tables 15, 16, and 17.)

Educational Backgrounds - Officer Personnel

Data contained in Tables 15 and 16 reflect the following:

1. 34.4% more maintenance officer personnel presently hold bachelor degrees than existed in 1962.
 - a. 1962 Bachelors' Degree = 26.229%
 - b. 1976 Bachelors' Degree = 60.637%
2. 20.03% more maintenance officer personnel presently hold master's degree's than existed in 1962.
 - a. 1962 Masters' Degree = 2.247%
 - b. 1976 Masters' Degree = 22.278%

TABLE 15 OFFICER PERSONNEL - RAW SCORE DISTRIBUTIONS															
ACADEMIC REPORT PERIOD	NON-H.S. GRAD.	H.S. GRAD.	H.S. GRAD WITH LESS 1 YR COL.	1 YR COL.	2 YR COL.	3 YR COL.	4 YR COL.	ASSOC. DEGREE	BACH. DEGREE	POST GRAD. WORK	MASTERS DEGREE	MASTERS & POST GRAD.	DOCTORIAL DEGREE	TOTAL PERSONNEL	AFSC's
June - 1962	45	2383	--	745	1097	604	--		1809	55	155	--	4	6897	4016, 4024, 4096
June - 1963	29	2176	--	638	995	564			2075	68	137	--	2	6683	4016, 4024, 4096
June - 1964	21	1919	--	631	949	572			2721	177	165	--	6	7161	4016, 4024, 4096
June - 1965	19	1594	--	580	818	483			2930	132	195	1	6	6758	4016, 4024, 4096
June - 1966	22	1355	--	517	705	403	50		3247	109	231	3	3	6645	4016, 4024, 4096
June - 1967	3	1102	--	446	618	344	60		3843	125	240	10	1	6792	4016, 4024, 4096
June - 1968	3	948	--	387	539	279	89		4095	214	297	10	2	6863	4016, 4024, 4096
June - 1969	1	784	23	335	478	237	81		4022	189	334	9	4	6497	4016, 4024, 4096
June - 1970	1	559	21	265	366	170	55		3975	173	375	6	6	5972	4016, 4024, 4096
June - 1971	2	349	27	182	245	118	31		3599	180	386	2	1	5122	4016, 4024, 4096
June - 1972	1	284	13	167	223	101	27		3087	170	438	2	1	4519	4016, 4024, 4096
June - 1973	--	211	20	146	184	77	26		2711	184	472	1	4	4045	4016, 4024, 4096
June - 1974	--	156	13	116	143	68	30	2	2494	166	511	5	3	3703	4016, 4024, 4096
June - 1975	--	117	14	77	109	53	21	5	2328	221	624	8	1	3578	4016, 4024, 4096
June - 1976	--	84	16	51	86	46	12	7	2055	267	755	4	6	3389	4016, 4024, 4096

* No degree achieved after completing 4th college year.

3. Educational levels achieved by maintenance officer personnel as of 1976 have dramatically increased when compared to June 1962.
4. Significantly fewer high school graduates hold officer commissions in the USAF than was the case throughout the 1960's and early 1970's.
5. USAF policy changes and/or extant practices clearly demonstrate a dramatic shift toward college matriculated personnel as resources for future maintenance officer positions.

Table 16 provides a compendium of reported data acquired between the periods of 1962 through 1976. This table provides a more comprehensive summary of educational trends as reported in proportional values. Arrows (➤ ▲) contained in Table 16 (bottom page) reflect the general 15 year educational trends apparent within data provided by the Computational Sciences Division, Air Force Human Resources Laboratory, Air Force Systems Command. The nature/types of degrees earned by these officer personnel are not known.

In summary, definite increases in achieved academic levels have occurred between 1962 and 1976. However, caution must be taken when correlating increased academic levels of achievement with skills. Further, dichotomous entries reflecting achieved academic levels can not be used to reflect improvements in abilities to communicate, calculate, analyze, etc. as the explicit natures of educational training were not known.

Educational Backgrounds - Enlisted Personnel

Enlisted personnel educational histories portrayed in Table 17 enable formulation of the following possible assumptions:

1. Selective enlistment of AF cadres has reduced the numbers of non-high school graduates that are accepted into the USAF.
2. Proportional numbers of high school graduates accepted into the USAF in 1976 is comparable to that observed in 1965.
3. Proportionately larger numbers of enlisted personnel are receiving some undergraduate training (1976) than were reported in 1966. (1 through 4 years of college training.)
4. Proportionately more enlisted personnel are matriculating with bachelor degrees than in previous years.

NOTE: The type/nature of degrees is not known.

TABLE 17 EDUCATIONAL LEVELS - ENLISTED PERSONNEL (33 AFSC'S)

EDUCATION LEVELS REPORT- ING PERIOD	NON H.S. GRADS	H.S. GRADS	H.S. GRADS W/LESS 1 COL. Y	UNDER GRAD. EDUCATION				ASSOC. DEGREE	BACH. DEGREE	POST GRAD WORK	MASTERS DEGREE	MASTERS & POST GRAD WORK	DOCTOR- IAL DEGREE	TOTALS
				1 YR.	2 YRS.	3 YRS.	4 YRS.							
June - 1965	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June - 1966	5,311	83,174	-	3,725	1,695	385	196	-	196	1	4	-	53	94,740
June - 1967	4,324	91,760	-	5,255	2,386	589	282	-	282	7	7	-	11	104,903
June - 1968	3,177	92,755	-	5,190	2,234	627	452	-	452	16	8	-	13	104,524
June - 1969	2,850	87,582	202	4,939	2,506	659	683	-	595	28	6	1	12	100,063 (99,975)*
June - 1970	2,324	79,515	657	4,268	2,306	578	804	-	699	23	14	2	11	91,204 (91,099)*
June - 1971	2,340	71,337	891	3,621	2,163	514	909	-	779	23	28	3	3	82,611 (82,481)*
June - 1972	2,491	67,494	1,166	3,291	2,012	495	855	-	712	19	30	-	-	78,565 (78,422)*
June - 1973	2,487	61,692	1,198	2,752	1,678	397	665	-	531	13	17	-	-	71,430 (71,296)*
June - 1974	1,490	58,123	1,377	2,592	1,461	356	516	27	391	15	19	1	-	66,368 (66,243)*
June - 1975	1,205	54,984	2,042	2,668	1,449	391	546	52	428	14	22	-	-	63,001 (63,683)*
June - 1976	908	50,932	1,684	3,036	1,551	394	552	184	457	34	22	7	6	59,767 (59,672)*
RANGES OF ENLISTED PERSONNEL (1966-1976) - 59,672 - 104,524														
*Values in parenthesis denote total enlisted personnel minus (-) difference between number of personnel that completed 4 years of college and those receiving bachelors degrees.														

Although data show that achieved educational levels of enlisted personnel are on the increase, analysts are unable to make a concomitant conclusion that abilities to communicate, problem solve, read, analyze, and correct have also increased.

MATERIAL RESOURCES DATA

Material resource consumption is an extremely large contributor to the life cycle costs of USAF weapon systems. Data collected and analyzed as part of this study identify the types of material resources utilization data available for review and study on the C-130E aircraft.

Information Search

A thorough search for material resource consumption data was conducted. This included visits to various Air Force headquarters, Air Logistic Centers, and bases assigned C-130E aircraft; a review of all published literature such as documents, descriptive studies and reports that could be obtained; and a screening of Air Force data collection systems. Historical data searched covered C-130E actual or validated material resources utilization for the period of 1962 through 1976. During the search and screening for usable data and/or statistics, it became abundantly clear that little C-130E identified material resource consumption data were available and desired information would be difficult to obtain. It was also discovered that the Air Force did not have a system that, for the years of this study, provided C-130E total base level and depot level material resources expenditures. The data that were available appeared in cost format thus compounding the requirement that cost structures, categories, elements and accounts be thoroughly understood and identified. Identity to the C-130E weapon system, ensuring total cost/expenditure involvement and providing a basis for historical analysis of consumption of C-130E related material resources are major problems. Therefore, only fragments of data were available from Air Force Management Systems that could be used. Comments and discussions are made on each of these categories in subsequent paragraphs.

USAF Operating and Support Cost Reporting (OSCR) System

Table 18 provides a thorough breakdown of the \$123M expended for material resources during FY-1975. Both base and depot level expenditures of supplies, contractual, and other costs are shown. Of the \$640 per FH indicated, \$442 per FH (includes \$300 for POL) was expended at base level and \$197 per FH was required for depot level operations. The three greatest expenditure areas within the depot level operations were AFLC Depot Maintenance Accessory Costs (\$82 per FH), airframe costs to include PDM (\$42 per FH) and the depot operations recurring investment costs (\$41 per FH). Since this is a relatively new system this type of data is only available for FY 75 and later. (Refer to Appendix "G" for detail discussion of the OSCR system.)

TABLE 18 C-130E FY75 OPERATING AND SUPPORT COSTS
(LESS PERSONNEL AND TRAINING)

	SUPPLIES		CONTRACT		OTHER		TOTAL	
	FY75 TOTAL COST (\$)	COST (\$) PER FH	FY75 TOTAL COST (\$)	COST (\$) PER FH	FY75 TOTAL COST (\$)	COST (\$) PER FH	FY75 TOTAL COST (\$)	COST (\$) PER FH
<u>BASE LEVEL OPERATIONS</u>								
FLYING OPERATIONS	60,871,953	315.98	-	-	-	-	60,871,953	315.98
WEAPON SYS. MAINT.	12,512,427	64.95	-	-	-	-	12,512,427	64.95
BASE LEVEL UOS	5,656,800	29.36	2,956,841	15.35	3,252,450	16.88	11,866,171	61.60
<u>TOTAL BASE LEVEL</u>	<u>79,041,260</u>	<u>410.29</u>	<u>2,956,841</u>	<u>15.35</u>	<u>3,252,450</u>	<u>16.00</u>	<u>85,250,551</u>	<u>442.52</u>
<u>DEPOT LEVEL OPERATIONS</u>								
AFLC DEPOT MAINT.								
AIRFRAME (INCL. PDM)	223,625	1.16	4,629,656	24.03	3,298,727	17.12	8,152,008	42.32
ENGINE S	677,025	3.51	-	-	972,205	5.05	1,649,230	8.56
ASSEMBLIES	7,003,711	40.92	1,440,054	7.48	6,598,446	33.21	15,722,211	81.61
ELECT. & COMM.	1,301,338	6.76	126,991	0.66	992,811	5.15	2,421,140	12.57
ARMAMENT	309	0.002	-	-	602	0.00	911	0.005
GROUND SPT	-	-	21,944	0.11	-	-	21,944	0.11
<u>TOTAL AFLC DPT. MT.</u>	<u>10,006,008</u>	<u>52.35</u>	<u>6,210,645</u>	<u>32.28</u>	<u>11,662,791</u>	<u>60.54</u>	<u>27,967,444</u>	<u>145.17</u>
<u>DEPOT OPERATIONS</u>								
RECURRING INVEST.	-	-	-	-	7,921,192	41.12	7,921,192	41.12
AIC BUS	339,961	1.76	812,040	4.22	154,801	0.80	1,307,602	6.79
AIC DIRECTORIES	-	-	-	-	460,165	2.39	460,165	2.39
SECOND BEST TRANS.	-	-	-	-	471,449	2.45	471,449	2.45
<u>TOTAL DPT OPS</u>	<u>339,961</u>	<u>1.76</u>	<u>812,040</u>	<u>4.22</u>	<u>9,007,607</u>	<u>46.76</u>	<u>10,160,408</u>	<u>52.74</u>
<u>TOTAL DPT LEVEL</u>	<u>10,425,969</u>	<u>54.12</u>	<u>7,031,405</u>	<u>36.50</u>	<u>20,670,398</u>	<u>107.30</u>	<u>38,127,952</u>	<u>197.92</u>
<u>TOTAL BASE LEVEL AND DPT LEVEL OPS COSTS (LESS PERS & TRNG)</u>	<u>89,467,229</u>	<u>464.41</u>	<u>9,988,326</u>	<u>51.85</u>	<u>23,922,840</u>	<u>124.18</u>	<u>123,378,403</u>	<u>640.44</u>

USAF Standard Base Level Maintenance Cost System (MCS)

12 The Executive Management Summary Report as outlined in AFM 177-380 and as described in Appendix "H" provides a current month and cumulative to date capsule of labor, material and other miscellaneous cost data by various cost categories for organizational and intermediate maintenance levels. During the search for material resources data, the 317th TAW's Pope Air Force Base Executive Management Summary Reports for July 1975 through December 1976 were obtained. Throughout the period covered by the above reports, the C-130E was the prime aircraft assigned at Pope Air Force Base. Therefore, it is assumed that the data reflects C-130E utilization.

Table 19, reflects data extracted from portions of the material section of the reports. The table shows a monthly comparison of: a) Material costs both direct and indirect, and b) total dollar value of material consumed broken down by WBS. By using the monthly flying hours, the material cost and dollar value of material consumed per flying hour for each month can also be compared. Readjustments were made to purge data not belonging in the various reports of the system and to adjust the costs within the WBS (Work Breakdown Structure) for MDS (Mission, Design, Series) as well as Non MDS. This is reflected in the Oct., Nov. and Dec. 1976 cost figures of Table 19.

The comparative cost data contained in Table 19, provide the basis for factors used in developing a comparison of estimated yearly material costs and consumption values from 1962 through 1976 for base level. By using data contained in the Oct. through Dec. 1976 reports, factors per flying hour were developed and applied to the number of flying hours each year. This in turn provided an estimated yearly comparison of material costs and dollar values broken down by WBS for base level C-130E material costs. Using these same elements and type costs the C-130E Material Costs and Material Consumption By WBS (1962 through 1976) are displayed in Table 20. No attempt was made at this time to deflate the 1976 cost figures used. The average yearly material costs amounted to \$93M with the years 1965 through 1968 accounting for considerably more than the average. The dollar value of material consumed by WBS averaged \$77M yearly of which \$71M was MDS costs. The dollar value of material consumed by WBS does not include any contractor maintenance costs.

It is planned that in the future the maintenance cost system as described in AFM 177-380 12 will be interfaced with the operating and support cost reporting (OSCR) system to provide this type of data after FY-1977.

12 AFM 177-380, USAF Standard Base Level Maintenance Cost System, 20 July 1976.

TABLE 19 C-130E MATERIAL CONSUMPTION AND COSTS - 317th TAW POPE AFB
(BASE LEVEL MAINTENANCE COST SYSTEM)

	1975												1976		REMARKS
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	SEP-76 MONTHLY AVERAGE	DEC-76 MONTHLY AVERAGE	
FLIGHT HOURS	1,550	1,577	2,022	2,022	2,022	2,022	2,022	2,022	2,022	2,022	2,022	2,022	1,760.59	1,767.71	USED OCT-DEC 1976
POSSIBLE AIRCRAFT (AVG)	59.8	46.0	41.1	41.6	41.6	41.6	41.6	41.6	41.6	41.6	41.6	41.6	40.8	40.8	AVERAGE COST PER FH AS TABLE C-130E
MATERIAL COST (\$)															
DIRECT MATERIAL	395,994	417,577	429,193	315,938	315,938	315,938	315,938	315,938	315,938	315,938	315,938	315,938	315,938	315,938	MATERIAL COSTS AND BY WBS (1962-1976)
INDIRECT MATERIAL	49,728	53,683	20,269	21,845	21,845	21,845	21,845	21,845	21,845	21,845	21,845	21,845	21,845	21,845	
TOTAL MATERIAL COST	445,722	471,260	449,462	337,783	337,783	337,783	337,783	337,783	337,783	337,783	337,783	337,783	337,783	337,783	
MATERIAL COST PER FH (\$)	284.34	300.02	222.41	167.05	167.05	167.05	167.05	167.05	167.05	167.05	167.05	167.05	192.46	192.46	
DIRECT MATERIAL	254.19	264.48	212.26	187.05	187.05	187.05	187.05	187.05	187.05	187.05	187.05	187.05	187.05	187.05	
INDIRECT MATERIAL	30.15	35.30	34.80	42.55	42.55	42.55	42.55	42.55	42.55	42.55	42.55	42.55	50.71	50.71	
TOTAL MATERIAL COST PER FH	284.34	300.02	247.06	229.61	229.61	229.61	229.61	229.61	229.61	229.61	229.61	229.61	237.76	237.76	
MATERIAL CONSUMED (BY WBS)															
AIRCRAFT															
1. VAL \$ VALUE	266,416	291,357	242,070	188,572	188,572	188,572	188,572	188,572	188,572	188,572	188,572	188,572	188,572	188,572	
2. VAL PER FH	172.01	187.22	120.72	93.26	93.26	93.26	93.26	93.26	93.26	93.26	93.26	93.26	93.26	93.26	
AIRFRAME															
1. VAL \$ VALUE	19,011	5,017	10,024	8,867	8,867	8,867	8,867	8,867	8,867	8,867	8,867	8,867	8,867	8,867	
2. VAL PER FH	11.62	3.23	6.43	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	
ENGINE															
1. VAL \$ VALUE	3,503	1,924	2,380	10,172	10,172	10,172	10,172	10,172	10,172	10,172	10,172	10,172	10,172	10,172	
2. VAL PER FH	2.25	3.12	1.18	6.02	6.02	6.02	6.02	6.02	6.02	6.02	6.02	6.02	6.02	6.02	
ACCESSORIES															
1. VAL \$ VALUE	48,962	60,242	120,445	48,036	48,036	48,036	48,036	48,036	48,036	48,036	48,036	48,036	48,036	48,036	
2. VAL PER FH	31.58	38.52	59.57	23.74	23.74	23.74	23.74	23.74	23.74	23.74	23.74	23.74	23.74	23.74	

TABLE 19 C-130E MATERIAL CONSUMPTION AND COSTS - 317th TAW POPE AFB
(BASE LEVEL MAINTENANCE COST SYSTEM) (CONT.)

		1975						1976												1975-76 COMBINED AVERAGE		DEC '76 MONTHLY AVERAGE
		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC			
ELECTRONICS																						
TOTAL \$ VALUE		31,190	22,647	30,863	34,045	24,726	47,622	30,864	9,566	61,279	27,643	39,621	60,802	47,624	42,063	47,412	197,621	210,884	167,799			
\$ VALUE PER FH		20.26	14.36	15.76	20.17	15.48	30.27	26.69	6.21	24.63	15.98	22.44	25.41	27.26	22.79	24.46	108.19	133.86	93.16			
AGE																						
TOTAL \$ VALUE		492	24	-	-	203	125	63	-	7	20	-	3	212	120	-	-	-	-			
\$ VALUE PER FH		0.43	0.02	-	-	0.24	0.08	0.04	-	0.003	0.01	-	-	0.47	0.01	-	-	-	-			
LOW-NOIS																						
SUPPLY SUPPORT																						
TOTAL \$ VALUE		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
\$ VALUE PER FH		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
CIN																						
TOTAL \$ VALUE		222	846	874	112	76	51	2	4	-	3	-	-	114	-	-	20,209	18,175	6,454			
\$ VALUE PER FH		0.14	0.55	0.41	0.07	0.04	0.03	3	0.001	-	0.002	-	-	0.07	-	-	11.51	11.34	3.39			
AGE																						
TOTAL \$ VALUE		9,698	9,489	8,414	7,907	6,523	6,181	6,049	7,167	14,518	14,221	10,450	14,564	6,496	7,734	10,273	9,793	5,179	7,114			
\$ VALUE PER FH		6.26	6.16	4.26	4.73	5.52	4.19	4.15	4.79	5.83	8.28	6.03	6.25	3.91	4.19	9.16	5.55	3.41	3.62			
OTHER																						
TOTAL \$ VALUE		14,461	16,010	11,245	15,698	21,990	9,024	5,483	10,816	1,867	23,497	3,246	5,292	20,994	1,757	21,114	3,653	-	16,981			
\$ VALUE PER FH		9.22	10.15	5.91	9.29	10.55	5.11	3.72	12.59	0.75	19.25	1.84	2.21	11.84	0.93	18.05	2.07	-	8.65			

TABLE 20 C-130E MATERIAL COSTS AND MATERIAL CONSUMPTION BY MBS (1962-1976)

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	AVERAGE
FLYING HOURS	18,000	82,271	231,049	347,008	444,283	344,608	310,609	255,373	245,153	245,979	220,070	190,774	189,887	170,360	164,553	248,447
MATERIAL COSTS (\$)(1)																
DIRECT MATERIAL	6,732,872	25,048,431	79,487,881	105,615,620	135,479,650	111,793,748	94,217,108	77,872,443	74,754,954	75,372,716	67,104,116	58,182,416	51,799,715	51,548,578	50,179,792	70,377,821
INDIRECT MATERIAL	1,028,844	4,504,970	12,457,860	19,009,050	24,337,823	20,042,841	17,015,161	13,489,333	13,479,461	13,479,461	12,085,435	10,448,409	9,305,314	9,332,321	9,014,213	14,168,742
TOTAL MATERIAL COST	6,761,716	29,553,401	91,945,741	124,624,670	159,817,473	131,836,589	111,232,269	91,361,776	88,234,415	88,852,177	79,189,551	68,630,825	61,105,029	60,880,899	59,193,005	84,546,563
MATERIAL CONSUMED BY MBS (TOTAL \$ VALUE)(3)																
MOS																
AIRCRAFT	634,804	4,099,713	11,451,710	17,397,409	22,130,422	18,748,126	15,477,846	12,725,237	12,215,374	12,306,964	10,944,008	9,604,275	8,447,472	8,489,099	8,199,676	17,049,361
AIRFRAME	374,840	765,168	2,145,942	3,227,174	4,131,032	3,409,464	2,800,644	2,371,869	2,379,323	2,296,905	2,046,451	1,772,435	1,579,751	1,584,348	1,520,243	3,408,650
ENGINE	849,572	2,717,067	10,717,068	15,441,740	20,077,165	16,547,061	14,036,421	11,440,304	11,078,464	11,140,591	9,945,964	8,619,269	7,676,290	7,438,648	7,438,160	11,449,748
ACCESSORIES	1,104,244	5,204,453	17,817,415	27,947,776	36,106,343	23,191,685	19,419,115	16,157,956	15,608,379	16,422,892	13,921,628	12,266,633	10,716,748	10,776,974	10,409,423	18,387,255
ELECTRONICS	2,044,372	8,916,475	25,716,443	37,597,600	48,317,223	39,845,083	32,775,423	27,079,540	26,657,937	26,856,196	23,920,412	20,740,415	18,471,338	18,524,948	17,893,493	24,327,418
MOS TOTAL	1,184,818	22,733,951	63,340,904	95,406,251	122,764,279	101,301,399	85,877,479	70,541,648	67,740,617	68,215,234	60,899,742	52,783,619	46,937,660	48,073,805	45,745,585	71,471,700
NON MOS																
SUPPLY SUPPORT	121,072	629,883	1,446,064	2,234,732	2,843,183	2,340,942	2,000,322	1,444,609	1,578,745	1,590,515	1,417,161	1,236,232	1,093,863	1,097,110	1,069,221	1,645,813
CEM	159,948	700,432	1,944,397	2,953,038	3,780,416	3,119,843	2,643,283	2,173,224	2,004,232	2,101,791	1,872,794	1,623,116	1,415,548	1,410,764	1,400,246	2,278,177
AGE	76,860	315,551	916,760	1,467,734	1,845,989	1,539,758	1,304,558	1,072,687	1,029,463	1,037,312	924,794	801,043	713,441	716,612	691,123	1,031,554
OTHER	73,132	320,640	898,658	1,349,845	1,728,781	1,428,109	1,208,259	992,401	951,443	940,740	846,772	741,955	640,783	642,700	640,111	1,006,214
NON-MOS TOTAL	431,132	1,695,596	4,207,879	6,005,369	10,345,381	8,448,672	7,156,132	5,687,794	5,419,326	5,690,296	5,070,411	4,384,511	3,813,235	3,915,091	3,701,301	5,981,768
TOTAL MATERIAL CONSUMED BY MBS	5,627,948	24,639,515	69,122,879	100,220,000	130,000,000	109,748,071	92,983,911	76,449,442	73,349,002	73,349,002	65,000,155	57,058,129	50,451,245	51,998,949	49,240,286	77,456,538

(1) UTILIZES COST PER FN FACTOR PMA
C-130E MATERIAL CONSUMPTION AND L
(2) YEARLY AVERAGE DOES NOT INCLUDE 1962 AND 1963 DATA
(3) USED 1976 \$ CONVERSIONS WITH NO ATTEMPT TO DEFATE TO "THIRY YEARS" \$.

Depot Maintenance Material Resource Costs

One of the most difficult problems in trying to capture and compare material resource consumption and/or data at depot level is the lack of identity to a specific weapon system. Possibly the most accurate or complete data are prepared by Headquarters AFLC/ACRL in accordance with AFR 173-4 ¹³ (RCS: HAF-ACM(A) 7109). However, due to the cost accounting system used at depot maintenance level, not all costs are collected by weapon system. Some are allocated to a weapon system using cost and quantity averaging methods. Thus, the actual costs indicated are not always true in nature.

Depot maintenance data generated for the C-130E aircraft and identified in Boeing's AMST Cost Effectiveness Analysis (LCC) ¹³ study was used as a basis in developing data shown in Table 21. This table shows costs of material consumed, in FY75 constant dollars, for five categories from 1969 to 1975. Using the C-130E possessed aircraft, flying hours for each year, and the ratio of labor to material contained in the RCS: HAF-ACM(A)7109 Report, the yearly dollar value, cost per aircraft and cost per flying hour for material consumed for each category by year is reflected. The dollar figures within the table include all direct and indirect expense material but do not contain non XD (Expendable Depot) items bought under replacement spares funding. Further, the Depot Maintenance Production Cost System, G072A, which provides the dollar data, is a system employed at the stock class material management aggregate code level. Therefore, the above table does provide good comparative information but does not represent the actual depot maintenance material resource costs for the C-130E aircraft.

When analyzing the data contained in Table 21, it appears that during the Southeast Asia conflict (1969-1972 time period), depot maintenance material costs were higher per aircraft than in years after the conflict. However, possibly due to less flying hours per year or deferred maintenance, the cost per flying hour increased after the conflict (1972-1976) even though total dollars spent per aircraft decreased. Further, the dollars spent for material at depot level for aircraft repair and engine overhaul were higher during the conflict and cost of materials for all types of accessory repair were highest after the Southeast Asia commitments.

USAF Cost and Planning Factors

As a result of not being able to obtain actual and/or validated material resource consumption data that could be plotted and compared through the study period time frame, it was necessary to use the factors

¹³ AFR 173-4, USAF Aircraft and Missile Depot Maintenance Cost Factors, October 1972.

TABLE 21 C-130E DEPOT-MAINTENANCE MATERIAL RESOURCE COSTS

	1969	1970	1971	1972	1973	1974	1975	7 YEAR AVERAGE
POSSESSED AIRCRAFT FLEET FLYING HOURS	289 255,373	304 245,153	323 246,979	298 220,070	293 190,734	295 169,867	296 170,360	299.71 214,076.57
AIRCRAFT REPAIR \$ COST PER A/C COST PER F/H	4,652,984.60 16,100.29 18.22	7,317,817.73 24,071.77 29.85	6,166,401.52 19,091.03 24.97	5,168,866.00 17,345.19 23.49	3,996,347.57 13,639.41 20.95	3,721,755.72 12,616.12 21.91	2,256,735.25 7,624.11 13.25	4,754,415.49 15,863.16 22.21
ENGINE OVERHAUL \$ COST PER A/C COST PER F/H	6,918,211.17 23,938.45 27.09	7,081,245.24 23,293.57 28.89	7,616,002.56 23,578.96 30.84	5,613,860.01 18,838.46 25.51	2,857,562.54 9,752.77 14.98	2,714,615.80 9,202.09 15.98	1,957,641.79 6,547.30 11.49	4,965,591.30 16,567.75 23.20
AVIONIC ACCESSORY \$ COST PER A/C COST PER F/H	3,406,277.44 11,786.43 13.34	3,814,523.83 12,547.78 15.56	3,215,166.23 9,954.08 13.02	3,071,452.72 10,306.89 13.96	4,264,481.03 14,554.54 22.36	3,520,585.18 11,934.19 20.73	3,056,571.53 10,326.26 17.94	3,478,416.85 11,605.84 16.25
OTHER A/C ACCESSORY \$ COST PER A/C COST PER F/H	5,761,042.47 19,934.40 22.56	4,609,148.22 15,161.67 18.80	4,856,559.99 15,035.79 19.66	6,997,358.45 23,481.07 31.80	6,099,807.37 20,818.46 31.98	3,516,174.72 11,919.24 20.70	3,402,623.72 11,495.35 19.97	5,034,613.56 16,738.24 23.52
ENGINE ACCESSORY \$ COST PER A/C COST PER F/H	2,618,062.92 9,059.04 10.25	2,673,850.39 8,795.56 10.91	3,062,094.05 9,480.17 12.40	2,651,486.89 8,897.61 12.05	3,606,137.99 12,307.64 18.91	4,010,357.20 13,594.43 23.61	3,852,999.17 13,016.89 22.62	3,210,712.66 10,712.58 15.00
TOTAL MATERIAL COST \$ COST PER A/C COST PER F/H	23,356,578.60 80,818.61 91.4	25,496,585.41 83,870.35 104.00	24,916,224.35 77,140.01 100.88	23,503,024.07 78,869.21 106.80	20,824,336.50 71,072.82 109.18	17,483,488.62 59,266.06 102.92	14,526,571.46 49,076.25 85.27	21,443,829.86 71,548.59 100.17

and formulas from AFR 173-10, USAF Cost and Planning Factors. Applying the flying hours, number of aircraft, and the utilization rates for each of the years 1962 through 1976, Table 22 was developed. The table provides comparative information and identifies the total estimated costs for each year and the cost per flying hour for GSE, POL, Maintenance (Base and Depot Level), Modifications (Class IV), Replenishment Spares and Vehicle Equipment Costs. Factors and formulas from AFR 173-10 followed the Cost Analysis Cost Estimating (CACE) model. The only exception to using the aforementioned factors and formulas for computing the various costs indicated within the table was the POL expenditures for 1975 and 1976. Data from the Operating and Support Cost (OSCR) Report for FY75 were used for developing the gallons per hour and cost per hour figures for 1975. The cost figures for 1976 were based on the gallons of fuel consumed per hour and cost of that fuel consumed per flight hour using actual 1976 consumption data for Pope AFB, Little Rock AFB and McChord AFB as reflected in Table 23. Fiscal year 1976 dollar values were used. No attempt to deflate the figures into then year dollars were made.

TABLE 22 C-130E RECURRING, INVESTMENT AND MISCELLANEOUS LOGISTIC COST BREAKDOWN

ELEMENTS	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
AGE COSTS (1)															
REPLACEMENT COMMON SPT (54) COST	67,459	478,827	1,303,784	1,417,235	1,701,055	1,678,779	1,609,651	1,467,241	1,753,776	1,863,387	1,719,162	1,690,317	1,701,653	1,707,424	1,711,393
SPARES COST	5,962	10,046	54,492	75,230	71,200	70,422	67,518	69,938	73,569	78,166	72,116	70,906	71,290	71,432	71,074
CURRYWAGE (INCL. SPARES) RPT. COSTS	68,121	488,873	1,358,276	1,492,465	1,772,255	1,749,201	1,677,169	1,537,179	1,827,345	1,941,553	1,791,278	1,761,223	1,772,943	1,778,856	1,782,467
COST/HR	3.52	6.04	5.63	5.46	3.99	4.77	5.40	6.80	7.45	7.94	8.14	9.23	10.44	10.44	10.45
FOR COSTS (2)															
FUEL (194) CONSUMPTION, CUBIC FT	14,758,000	64,545,090	191,359,163	272,401,284	318,787,355	287,728,053	243,693,223	200,487,802	192,445,103	193,278,881	175,950,881	149,728,190	133,345,534	129,877,472	129,605,710
FUEL (194) CONSUMPTION, GAL/HR	785	785	785	785	785	785	785	785	785	785	785	785	785	785	785
FUEL (194) TOTAL COST	6,433,200	23,777,106	66,778,941	100,345,312	128,237,787	105,910,001	89,643,455	73,802,757	70,819,217	71,172,881	51,600,230	55,122,128	49,091,564	51,104,919	49,062,904
FUEL (194) COST/HR	289	289	289	289	289	289	289	289	289	289	289	289	289	289	289
OIL TOTAL COST	77,260	119,297	315,050	503,162	644,210	531,581	449,748	370,291	355,472	339,170	319,102	276,564	216,307	247,072	226,607
OIL COST/HR	1.42	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
MAINTENANCE - AIRCRAFT COSTS (2)															
MAINTENANCE - AIRCRAFT COST	1,166,270	5,115,416	14,292,740	21,561,320	27,654,400	27,777,926	19,304,568	15,911,106	15,153,792	15,279,968	11,635,268	11,815,164	10,535,046	10,570,752	10,208,721
MAINTENANCE - AIRCRAFT COST/HR	3,346,442	17,819,730	49,811,911	72,107,170	89,066,250	77,606,122	64,383,714	56,544,000	55,346,272	57,277,202	5,741,092	48,605,415	43,543,774	43,691,276	42,551,138
MAINTENANCE - AIRCRAFT COST/HR	62.03	62.03	61.65	62.13	62.25	62.01	62.24	62.21	61.81	62.27	61.96	61.95	62.02	62.05	61.02
MAINTENANCE - AIRCRAFT COST/HR	188.55	216.16	211.24	207.80	193.72	200.76	207.57	230,495	236.56	231.21	231.66	244.35	266.16	25.47	460.41
MAINTENANCE - AIRCRAFT COST/HR	220.50	226.46	223.09	249.91	255.97	242.77	269.01	292.92	288.19	293.98	295.62	306.30	318.36	31.52	322.47
MAINTENANCE - AIRCRAFT COST/HR	147,313.3	1,111,845.9	3,026,619.1	4,218,412.0	3,950,675.4	3,497,106.9	1,734,403.4	1,070,372.6	4,071,204.4	4,325,654.7	3,190,851.7	3,921,891.1	3,850,675.4	3,564,100	3,977,659.4
MAINTENANCE - AIRCRAFT COST/HR	7.84	13.51	13.10	12.16	9.89	10.43	12.05	16.16	16.61	17.51	16.12	20.57	22.26	21.27	24.17
MAINTENANCE - AIRCRAFT COST/HR	1,293,940	6,117,432	17,058,400	25,234,740	33,006,960	27,132,840	23,040,916	18,990,788	18,006,780	18,159,736	16,274,316	14,101,874	12,574,008	12,616,706	12,184,603
MAINTENANCE - AIRCRAFT COST/HR	74.04	74.35	71.82	74.16	71.29	74.01	74.20	74.36	72.76	74.31	71.95	72.94	74.01	76.06	74.02
VEHICLE EQUIPMENT COSTS (2)															
VEHICLE EQUIPMENT COST	20,000	151,451.38	412,636.25	679,444.30	979,001.88	931,692.30	509,767.08	528,039.13	553,446.00	590,161.30	514,023.25	635,317.63	639,001.88	540,359.00	542,655.87
VEHICLE EQUIPMENT COST/HR	1.07	1.41	1.79	1.46	1.81	1.45	1.64	3.06	3.47	3.29	2.92	3.61	3.17	1.17	3.30

① USED AUM 173-10 FACTORS IN COMPUTING VARIOUS COSTS EXCEPT FOR POL EXPENDITURES 1975-76

② USED FY 76 8 CONSTANTS - NO ATTEMPT WAS MADE TO DEFATE TO OTHER YEAR'S.

TABLE 23 C-130 POL FUEL CONSUMPTION 1976


MONTH	FLYING HOURS		GALLONS CONSUMED		GALLONS PER		COST (\$)
	LITTLE ROCK	POPE	TOTAL	LITTLE ROCK	POPE	FT	PER 1000 FH
JAN	3,853	1,461.8	5,094.8	2,493.672	1,358,004	423,463	725.2
FEB	4,513	1,496.8	6,574.8	2,730,673	2,269,807	429,831	825.9
MAR	4,932	2,488.3	8,084.3	2,964,401	2,031,048	500,113	679,782
APR	4,276	1,730.7	6,677.7	3,334,227	1,513,769	439,119	791,756
MAY	4,346	1,765.6	6,694.6	2,586,964	3,572,465	305,823	894,661
JUN	4,329	2,392.9	7,315.9	2,628,215	2,285,330	411,059	727,815
JUL	4,480	1,753.5	6,009.5	3,259,246	1,331,194	303,266	730,406
AUG	4,540	1,846.6	6,931.6	2,550,393	2,600,261	390,544	800,565
SEP	4,140	1,932.2	6,726.2	2,354,055	2,303,202	323,516	751,679
OCT	3,777	1,764.1	6,367.1	3,265,648	2,831,588	335,533	1010,313
NOV	4,433	1,575.4	6,525.4	2,550,974	2,463,558	264,011	809,045
DEC	3,510	1,963.7	5,937.7	2,596,413	1,391,969	282,182	719,228
TOTAL	51,132	22,171.6	80,434.6	13,372,081	25,952,202	4,559,260	75 742
						53,844,343	292,081
							3684/GAL. (BULK FUEL COST)

COST DATA

A thorough search for USAF C-130E aircraft acquisition, and operations and support (O&S) cost data was conducted covering the 15 years (1962-1976) of this study. During the data search, it became very clear that actual historical cost data have not been collected and maintained over the life cycle history of Air Force weapon systems. There is no single data source that collects and maintains historical cost data. However, there are some data systems and repositories that can provide various pieces of the types of cost data that were sought for this study program. These data repositories/systems/files are discussed in the following paragraphs of this section.

ACQUISITION COST DATA

Table 24, reflects the Research, Development, Test and Evaluation, Aircraft Procurement, and other procurement categories of costs information collected during this study, including the sources.

RDT&E Cost - Research, Development, Test, and Evaluation costs for the C-130E aircraft was non-existent within the applicable data repositories searched. The only C-130 RDT&E documented cost information available was located in T.O. 00-25-30  including revisions back through the 1972 issue. T.O. 00-25-30 reflects prorated R&D costs for the C-130A, B, and D models only. The T.O. does not contain any R&D costs against the C-130E in the specific or prorated areas, and it is stated in the T.O. that: "Certain older systems may not include R&D costs due to non-availability of information." In addition, most of the C-130 RDT&E expenditures were completed early in the C-130 development program, which was prior to the 1962 time period of this study. Subsequently the R&D unit cost per aircraft of \$5600 reflected in Table 24 is the prorated R&D costs for C-130A, B, and D models.

Aircraft Procurement Cost - Procurement Costs for the C-130E as shown in Table 24 were obtained from two different sources: 1) ASD cost histories maintained at ASD/CSEH/HO, Wright-Patterson Air Force Base contained some documented procurement costs on the C-130E aircraft for the early initial production years (1961 through 1964), and 2) aircraft procurement costs for later years (1968, 1969, 1970, and 1972) production aircraft were obtained from T.O. 00-25-30 using applicable revisions for each specific year. The number of production aircraft by year shown in Table 24 was determined by assuming the aircraft serial number to be the production year, and all aircraft with 1961 through 1964 serial numbers were reflected in the 1962 through 1965 time period because the first USAF C-130E possessed

 T.O. 00-25-30, Unit Costs of Aircraft, Guided Missiles, and Engines.

TABLE 24 USAF C-130E AIRCRAFT RDT&E AND PROCUREMENT COSTS

	DOLLARS IN MILLIONS														15 YR. AVG.
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
NOTE: R&D (UNIT COST PER ACFT)															
111 (UNIT COST PER ACFT)															
AIRCRAFT															
PROCUREMENT:															
TOTAL	1 3.64	1 2.66	1 1.90	1 1.60	-	-	2 2.40	2 1.84	2 1.14	-	2 2.82	2 .054	2 .054	2 .054	2 .054
(AVG. UNIT COST PER ACFT)															
AIRFRAME	1 2.29	1 1.40	1 1.12	1 1.21	-	-	2 1.18	2 1.31	2 1.35	-	2 1.40	-	-	-	-
(AVG. UNIT COST PER ACFT)															
PROPULSION	1 .34	1 .13	1 .17	1 .46	-	-	2 .45	2 .43	2 .43	-	2 .43	-	-	-	-
(AVG. UNIT COST PER ACFT)															
OTHER SYSTEMS	1 .20	1 .13	1 .21	1 .21	-	-	2 .57	2 .30	2 .20	-	2 .19	-	-	-	-
(AVG. UNIT COST PER ACFT)															
OTHER															
PROCUREMENT:															
FUEL/TAN SUPPORT EQUIPMENT	1 .11	1 .03	1 .04	1 .01	-	-	-	-	-	-	-	-	-	-	-
(AVG. UNIT COST PER ACFT)															
TRAINING DEVICES	1 .42	1 .06	1 .04	1 .02	-	-	-	-	-	-	-	-	-	-	-
(AVG. UNIT COST PER ACFT)															
CLASS V MOD-5															
(AVG. UNIT COST PER ACFT)															
**TOTAL & PROCUREMENT															
TOTAL															
(AVG. UNIT COST PER ACFT)															
NO. OF AIRCRAFT PRODUCTION BY SERIAL NO.															
YEAR															
	16	83	113	94	-	-	17	19	18	-	12	-	-	-	-

SOURCE: ① AIRCRAFT COST HISTORIES (NOTE: 1961 THRU 1964 PROCUREMENTS WERE PIECED UP IN 1962 THRU 1965 FOR STUDY PURPOSES) ② AF 7.0, 04-24-30 AND REVISIONS

* INCLUDES UTILITIES, SPARES
 ** R&D COST PROMOTED AGAINST THE C-130A THRU D MODELS ONLY
 *** EXCLUDING CLASS Y MODIFICATIONS

inventory aircraft was in 1962 and first flight of the C-130E was in April of 1962. The follow-on production aircraft were reflected in the actual year of the aircraft serial numbers. The C-130E average unit cost per aircraft over the 15 year time period (8 years of production aircraft) reflected \$2.0 million and is broken down in the detail available as follows:

<u>Average Unit Cost per Aircraft</u>	<u>1962-1972 \$ In Millions</u>
Airframe	1.31
Propulsion	.48
Other Systems	<u>.21</u>
TOTAL AIRCRAFT	\$2.0

Other Procurement Cost

The ASD cost histories contained some C-130E peculiar support equipment and training devices costs as reflected in Table 24 for the 1962 through 1964 time period. In addition, the only other C-130E procurement cost that could be located was the class V modification costs as outlined in T.O. 00-25-30 starting with the 1972 issue as shown in Table 24.

C-130 Aircraft Contract Costs

Frost and Sullivan Inc. maintain a "Defense Market Measures System" that tracks and summarizes (to the extent possible) the Department of Defense marketing system. C-130 contracts cost data were requested from the Frost and Sullivan system for the 1962 through 1976 time period. Information provided covered the Defense Market Measures System C-130 (all models) aircraft contracts captured during the January 1962-December 1975 time period. Over 1,500 contracts were listed in the computer printout provided. The following information was included: recorded date, record contractor, awarding agency, contract dollars, phase/project, Frost and Sullivan product categories, and a very brief description of the contract. Specific C-130E contracts could not be separated, as most of the contracts showed a product of C-130 only. In some cases the brief description would specify various models but this was the exception rather than the rule. Table 25 contains a summary of 1,450 contracts extracted that could be identified against USAF C-130 aircraft. These 1,450 contracts covered the 1962 through 1975 time period and accounted for \$1,889,417,000 expended against the various contract categories. The information was against the total C-130 (all series) aircraft and the costs could not be applied to the C-130E model only. However, it does show the variety of procurements and illustrates the difficulty in tracking these costs for a specific model, such as the C-130E, within a basic aircraft MDS.

TABLE 25 SUMMARY OF C-130 (ALL SERIES) AIRCRAFT CONTRACT DOLLARS BY SYSTEM PRODUCT CATEGORIES 1962-1975

CATEGORY IDENTIFIER	CATEGORY DESCRIPTION	C-130 R-9-5	YEARS	NO. OF CONTRACTS	\$ IN 1000	PERCENT OF CUMUL TOTAL	REMARKS
AC	AIRCRAFT TOTAL	C-130	62-75	1,827	1,729,694	95.20	RETRO FIT KITS/AGE SPARES/MDIA
AC 1100	ATTACK AIRCRAFT	AC-130	71-72	1	214	.02	SPARES
AC 1200	RECONNAISSANCE SURVEILLANCE AND ASW	C-130	66-70	2	140	.01	ACFT PROD, AGE PROD/SPARES, ESE
AC 1400	AIRCRAFT GENERAL	C-130	62-75	280	1,432,826	76.85	PROD/SPARES, POWER PLANT, PROD. FLT. TEST, FATIGUE TEST, PECORLAR SPARES, REPAIR, SPARES, IDAM, MODS, PMO, ETC.
							LONG LEAD TIME EFFORT FOR C-130M A/C AND SPARES FOR C-130 A/C.
AC 1600	STOL/PTOL AIRCRAFT	C-130	72-73	2	4,929	.26	TEST SETS/TEST STANDS PROD, PROD TESTING, DATA, SPARES, AGE
AC 1800	AIRCRAFT TESTING	C-130	62-74	10	14,201	.78	SPARE PARTS
AC 1900	UNSPECIFIED AIRCRAFT PARTS	C-130	62-64	5	348	.02	PROCUREMENT, SPARE PARTS/KITS, UPDATE
AC 2100	AIRCRAFT PROPELLERS	C-130	62-75	67	14,481	.77	10.4, OVERHAUL, MODS, TEST EQUIPMENT PROD
							ENG PROD, ENG COME, SIG, SPARE PARTS/KITS, MODS/KITS
AC 2200	AIRCRAFT SET/TURBINE ENGINES	C-130	62-75	35	126,095	6.42	COMPONENT PROD, MOD KITS, TECH MANUALS, SPARES, REPAIRS, DEVELOPMENT
AC 2000	AIRCRAFT FLIGHT CONTROL SYSTEMS	C-130	62-74	30	17,286	.82	SPARES/KITS, AGE, DATA, SYS DEV/PROD
AC 6000	AIRCRAFT INSTRUMENTATION SYSTEMS	C-130	62-75	44	6,852	.36	FLT. SIMULATORS/TRAINING PROD, SPARES, DATA, BUY/DATE CHANGES, MODS/KITS
AC 6200	AIRCRAFT TRAINING AND SIMULATION SYSTEMS	C-130	62-75	17	8,787	.46	CANOE HANDLING EQUIP FEED, SPARES, MODS/KITS DEVELOPMENT, PRODUCTION, TESTS, ENG. SUPPORT
AC 6400	AIRCRAFT GROUND HANDLING AND SERVICES SYSTEMS	C-130	62-74	43	12,740	.67	REPLER SPARES
AC 7100	AIRCRAFT WHEEL/TIRE AND BRAKE SYSTEMS	C-130	62-75	197	39,931	2.11	SPARES, MODS/KITS
AC 7200	AIRCRAFT FUEL SYSTEMS	C-130	62-75	34	15,094	.80	SPARES, MODS/KITS
AC 7300	AIRCRAFT PERSONNEL EQUIPMENT	C-130	62-75	22	6,027	.32	DEVELOPMENT, TESTS, REPAIR SPARES, REPAIR KITS
AC 7400	AIRCRAFT FIRE CONTROL SYSTEM	C-130	62-74	11	6,993	.37	SPARES, MODS, TESTS
AC 7500	AIR DROP DELIVERY SYSTEM	C-130	65-75	12	17,240	.91	SPARES, MODS/KITS, OVERHAUL
AC 7600	AIRCRAFT MISC. SUBSYSTEMS	C-130	62-75	481	82,750	2.79	DESIGN, DEVELOP, INTEGRATE
AC 9100	AIRCRAFT INTEGRATED AVIONICS SYSTEMS	C-130	69-71	2	1,915	.11	

TABLE 25 SUMMARY OF C-130 (ALL SERIES) AIRCRAFT CONTRACT DOLLARS BY SYSTEM PRODUCT CATEGORIES 1962-1975 (CONT'D)

CATEGORY IDENTIFIER	CATEGORY DESCRIPTION	C-130 M-B-S	YEARS	NO. OF CONTRACTS	\$ IN 1000	PERCENT OF GRAND TOTAL	REMARKS
CO	COMMUNICATIONS TOTAL			23	9,272	.49	
CO 1600	INTERCOMMUNICATIONS SYSTEMS	C-130	63-73	6	623	.02	SPARES
CO 4100	AIRCRAFT RADIO TRANSCIVING SYSTEMS	C-130	62-76	21	7,671	.40	SPARES, MOD/KITS
CO 4110	AIRCRAFT CRT AND COMM NAV SYSTEMS	C-130	64-68	3	643	.03	SPARES
CO 4120	AIRCRAFT COMMAND AND CONTROL SYSTEMS	C-130	73	1	26	-	SPARES
CO 4530	RADIO/TRAFFIC/AIRTEL AND RADAR SYSTEMS	C-130	62-63	2	609	.03	SPARES
CO 1000	DATA PROCESSING: GENERAL PURPOSE AND UNASSOCIATED ANALOG AND DIGITAL COMPUTERS	C-130	64-76	10	740	.04	SPARES, TESTS, MOD/KITS
EW	ELECTRONIC WARFARE TOTAL			31	40,687	2.15	
EW 0000	ELECTRONIC WARFARE SYSTEMS GENERAL	C-130	64-76	7	8,217	.44	SPARES, TEST, MOD/KITS
EW 1000	MAPPING SURVEILLANCE AND RECONNAISSANCE SYSTEMS	C-130	65	1	150	.01	TESTS
EW 1100	AIRCRAFT OPTICAL CAMERA RECONNAISSANCE SYSTEM	AC-130C	72	1	32	-	SPARES
EW 1200	AIRCRAFT INFRARED RECONNAISSANCE & MAPPING SYS	AC-130	72-75	7	6,840	.36	TESTS, SPARES, MOD
EW 1500	AIRCRAFT PHOTOGRAPHIC ILLUMINATION SYSTEM	AC-130A	72	1	90	.01	FABRICATION
EW 1700	AIRCRAFT PHOTOGRAPHIC ILLUMINATION SYSTEM	AC-130	71-76	9	22,853	1.21	SPARES, DESIGN, DEVELOP, FABRICATE, MOD
EW 2000	PASSIVE ELECTRONIC RECONNAISSANCE SYSTEM	C-130	64-76	3	1,287	.07	SPARES, MOD, GROUND EQUIP.
EW 3000	IFF CODING AND DECODING SYSTEMS	HC-130H	65	1	885	.05	SPARES
EW 4000	COUNTERMEASURES SYSTEMS	C-130	65	1	213	.01	MOD
MS	MISSILES AND SPACE TOTAL			3	1,298	.07	
MS 1220	COMMAND GUIDANCE SYSTEMS	DC-130A	72	1	1,206	.06	MOD
MS 1551	VEHICLE CONTAINED TELEMETRY SYSTEMS	C-130B	69	2	92	.01	TELEMETRY DATA SUBSYSTEM
NA	NAVIGATION TOTAL			61	35,323	1.87	
NA 1710	LONG DISTANCE RADIO NAV RECEIVING SYSTEMS	C-130	63-66	8	4,072	.22	SPARES, MOD/KITS
NA 1720	NON-DIRECTIONAL BEACONS	AC-130	65	1	163	.01	PROC-DIRECTIONAL FINDING SYS
NA 1810	SHORT DISTANCE AIRBORNE RADAR NAV SYSTEM	C-130	64-70	10	2,431	.13	SPARES
NA 1440	AIRCRAFT INSTRUMENT LANDING SYSTEM	C-130	65-67	2	209	.01	PROC-RADIO RECEIVERS/DATA
NA 2110	AIRCRAFT RADAR BEACONS AND TRANSPONDERS	C-130	70-73	2	2,656	.14	PROC-RADIO EQUIPMENT/SPARES
NA 2220	AIRCRAFT RADAR ALTITUDE AND TERRAIN AVOIDANCE SYSTEM	C-130	63-76	13	6,968	.32	PROC-RADAR EQUIPMENT/SPARES, AGE
NA 2260	NAVIGATION AND WEAPON DELIVERY	C-130	71-76	6	16,199	.76	PROC-NAV/WEAPON DELIVERY EQUIP, SPARES, MOD, AGE
NA 3200	DOPPLER RADAR NAVIGATION SYSTEM	C-130	62-76	10	1,663	.09	SPARES
NA 3310	INERTIAL NAVIGATION SYSTEM	C-130	71	1	71	-	SPARES

TABLE 25 SUMMARY OF C-130 (ALL SERIES) AIRCRAFT CONTRACT DOLLARS BY SYSTEM PRODUCT CATEGORIES 1962-1975 (CONT'D)

[illegible]

OPERATIONS AND SUPPORT COSTS DATA

The following subparagraphs discuss the C-130E operations and support cost information that was available and obtained during this study effort. Information that was included in the human resources data and material resources data paragraphs above has not been reiterated in this paragraph.

The Operating and Support Cost Reporting (OSCR) system, as described in Appendix "G", provided the FY-1975 operating and support total costs, cost per flying hour and percentage of total costs. Table 26 identifies the above costs by personnel, training and TDY costs versus supplies, contract and other (minus training and other personnel support) costs. Further identified is the impact of base level versus depot level costs. Of the \$348M expended in FY75 for base and depot level operating and support costs for the C-130E, \$225M or \$1,170 per flying hour was personnel related costs. Thus, 65% of the expenditures were for human resources type items and 35% were expended for material resources. Of the \$123M or \$640 per flying hour expended for material resource costs, \$47M or \$300 per flying hour was for POL. Thus, personnel and POL were by far the greatest contributors to FY75 C-130E Operating and Support (O&S) costs.

TABLE 26 C-130E FY75 OPERATING AND SUPPORT COST RECAP

ELEMENTS	FY75 TOTAL COST (\$)	FY75 COSTS (\$) PER FH	PERCENT
<u>PERSONNEL, TRAINING & TDY COSTS</u>			
BASE LEVEL OPS	210,487,435	1,092.61	60.34
DEPOT LEVEL OPS	<u>14,982,789</u>	<u>77.77</u>	<u>4.29</u>
SUB-TOTAL	225,470,224	1,170.38	64.63
<u>SUPPLY, CONTRACT & OTHER COSTS</u>			
BASE LEVEL OPS ⁽¹⁾	85,250,551	442.52	24.44
DEPOT LEVEL OPS	<u>38,127,852</u>	<u>197.92</u>	<u>10.93</u>
SUB-TOTAL	123,378,403	640.44	35.37
TOTAL BASE & DEPOT LEVEL <u>SUPPORT & OPERATIONS COSTS</u>	348,848,627	1,810.82	100.00

SOURCE: OSCR, FY75, DTD 3 AUG. 1976

NOTE: (1) INCL. POL COST OF \$57,794,100

When comparing the impact of costs associated with personnel versus material, each level should be reviewed separately and then compared with each other. Table 27, Base Level O&S Costs, identifies the costs for personnel, training and TDY versus the material resources costs. Of the \$295M or \$1,535 per FH spent at the base level, 71% was for human resources and 29% for material resources. However, when comparing the same information for the depot level costs, Table 28, the data reflects that of the \$53M or \$276 per FH spent, 72% was for material resources and 28% for human resource elements. When analyzing both tables and data contained within, it is easy to see that the greatest expenditures for operating and support costs for the C-130E are incurred at base level for human resources.

TABLE 27 FY75 BASE LEVEL OPERATING AND SUPPORT COSTS - C-130E

ELEMENTS	FY75 BASE LEVEL COST (\$)	FY75 BL COST (\$) PER FH	PERCENT
PERSONNEL, TRAINING & TDY COSTS	210,487,435	1,092.61	71.17
SUPPLIES, CONTRACT AND OTHER COSTS ^①	85,250,551	442.52	28.83
<u>TOTAL BASE LEVEL OPERATIONS COST</u>	<u>295,737,986</u>	<u>1,535.13</u>	<u>100.00</u>

NOTE: ① INCL. POL COST OF \$57,794,100 OR 19.54% OF TOTAL BASE LEVEL OPS COST.

TABLE 28 FY75 DEPOT LEVEL OPERATING AND SUPPORT COSTS - C-130E

ELEMENTS	FY75 SPT LEVEL COST (\$)	FY75 SPT LEVEL COST (\$) PER FH	PERCENT
PERSONNEL, TRAINING & TDY COSTS	14,982,789	77.77	28.21
SUPPLIES, CONTRACT AND OTHER COSTS	38,127,852	197.92	71.79
<u>TOTAL SUPPORT LEVEL OPERATIONS COSTS</u>	<u>53,110,641</u>	<u>275.69</u>	<u>100.00</u>

Depot Maintenance Repair Action Costs

The C-130E depot maintenance repair action costs/FH by system for repair cycle assets are shown in Table 29. The information was summarized at the system level and reflects costs per flying hour of C-130E items processed through depot maintenance (excluding engines and complete airframes) during FY 1975-1976. (Refer to, Section III "Data Analysis, Area III - Depot Data," for the detailed description of the depot data sources and computer processing utilized to obtain depot repair action costs in the study program.)

**TABLE 29 C-130E DEPOT MAINTENANCE REPAIR ACTION COSTS/FH BY SYSTEM
(ITEM PROCESSED THRU DEPOT MAINTENANCE EXCLUDING ENGINES)**

SYS. NO.	SYSTEM NAME	FY 1975 AND FY 1976	
		COST/FH (IN \$)	SYSTEM % OF TOTAL
11	AIRFRAME	3.36	3.04
12	COCKPIT AND FUSELAGE	1.21	1.09
13	LANDING GEAR	5.64	5.09
14	FLIGHT CONTROLS	2.84	2.57
22	TURBO PROP POWER PLANT	-	-
24	AUXILIARY POWER PLANT	7.45	6.73
32	HYDRAULIC PROPELLER	15.91	14.37
41	AIR CONDITIONING, PRESSURIZATION	6.73	5.75
42	ELECTRICAL POWER SUPPLY	2.03	1.83
44	LIGHTING SYSTEM	-	-
45	HYDRAULIC AND PNEUMATIC	3.63	3.28
46	FUEL	4.06	3.67
47	OXYGEN	1.66	1.50
49	MISCELLANEOUS UTILITIES	0.48	0.43
51	INSTRUMENTS	1.98	1.79
52	AUTOPILOT	4.67	4.22
55	MAJUNCTION ANAL. & RECORDING EQUIP.	-	-
61	HF COMMUNICATIONS	1.38	1.23
62	VHF COMMUNICATIONS	0.18	0.16
63	UHF COMMUNICATIONS	1.88	1.70
64	INTERPHONE	0.27	0.24
65	IFF	0.68	0.61
66	EMERGENCY COMMUNICATIONS	0.89	0.80
69	MISC. COMMUNICATIONS	-	-
71	RADIO NAVIGATION	3.99	3.60
72	RAOAR NAVIGATION	20.83	18.81
91	EMERGENCY EQUIPMENT	-	-
96	PERSONNEL EQUIPMENT	-	-
97	EXPLOSIVE DEVICES	-	-
**99	MISC.	18.97	17.13
	TOTAL	110.72	-

NOTE: MISC. INCLUDES ITEMS FROM ALL SYSTEMS WHERE NO MATCH COULD BE MADE BETWEEN NSN/MUC

SUMMARY

This data analysis task was twofold in accomplishment: a) it accumulated the effort from the prior tasks; and b) set the stage for the following two tasks; Historical Task Analysis - V and Life Cycle Cost Analysis - VI.

Extensive analytical results contained in this data analysis section provides comprehensive quantitative spectra encompassing 15 years (1962-1976) of real time data. This includes historical data for seven basic categories: a) operations, b) maintainance, c) reliability, d) safety, e) human resources, f) material resources, and g) cost. This study, included the acquisition, analyses, and development of quantitative data on the C-130E weapon system during three reasonably distinct eras, namely; a) Pre-Southeast Asian involvement, b) Southeast Asian involvement, and c) post war period. Subsequent to the Gulf of Tonkin Incident (August 1964), a rapid build-up in Southeast Asia occurred. This included the airlifting of men and materials into the theater of operations (main operating bases - MOB) beginning in November 1964, that included the assignment of C-130 aircraft to various MOB's for forward logistical support purposes. The massive historical data acquired and analyzed covering the three eras were indexed into the seven data categories as described above and are presented and decribed in detail in this section.

A data matrix (Table 1) was developed to categorize the acquired 6.1 million records and over 900 documents/reports into seven major divisions and elements. The source, quality, quantity, and significant remarks for each data element are displayed. This matrix will enable future analysis to rapidly assess data availability and sources for application to any study or need.

Large scale computers, remote terminal on-line operations, and applicable software were utilized to effectively and efficiently manipulate the data into listings, summations, and easily readable formats, thus, enabling a more thorough, comprehensive review by the analysts.

In general, excellent weapon system data in the operational category was obtained and presented for the 15 year history. The maintenance reliability and safety data categories are well documented. Scarcity of complete historical data are noted in the human resources, material resources, and cost data categories. This data spectra provides the only existent resources utilization history of the C-130E weapon system for a fifteen year period. It establishes a much needed baseline for this type of weapon system historical data and is a necessary key to also establishing the life cycle cost. It provides a plan of action for future research efforts and establishes the type and quantity of information that can be expected to be obtained from available sources on other weapon systems.

IV. GENERAL DISCUSSION

The following paragraphs attempt to bring into focus statistical summaries and trends that may be detected from the massive amount of information collected and analyzed within the major categories.

OPERATIONS

A total of 403 C-130E aircraft had been procured by the Air Force with 41 no longer in service. Of these procured aircraft, the average 15 year possessed aircraft count equaled 260. These in-turn flew, during the 15 years, 3,463,317 hours for an average utilization of 75.2 hours per month per aircraft. A 2.63 flight hour average mission length resulted and the aircraft had an average of 1 landing (full stop or touch and go) per flight hour. The operational ready percent was 69.9 with a not operational ready supply and maintenance of 4.0 and 26.1, respectively. Figure 17, derived from the curvilinear regression formula, $\log \lambda = a + b \log x$, illustrates the relationship between varying sortie lengths to utilization and system maintenance manhours per flight hour.

The average utilization rate, i.e., flight hours per C-130E aircraft per month increased dramatically between the period of 1963 and 1966 with a general decline in utilization occurring subsequent to 1966 to a current level in 1976 of 46.2 flying hours per month per aircraft. Figure 18, depicts several key operations trends extant within the 1962-1976 period.

Apparent within Figure 18 is the steady downward trend of operationally ready (OR) aircraft. Etiologies of this trend were not discretely quantified. The general downward trend of C-130 flying hours subsequent to 1967 is due largely to the introduction of the Lockheed C-141 Starlifter which was used to supplement the C-130E. Fatigue/aircraft structural problems encountered in Southeast Asia, particularly the model B and E involving center wing cracking resulted in the need to lower the operational use of the C-130 weapon system.

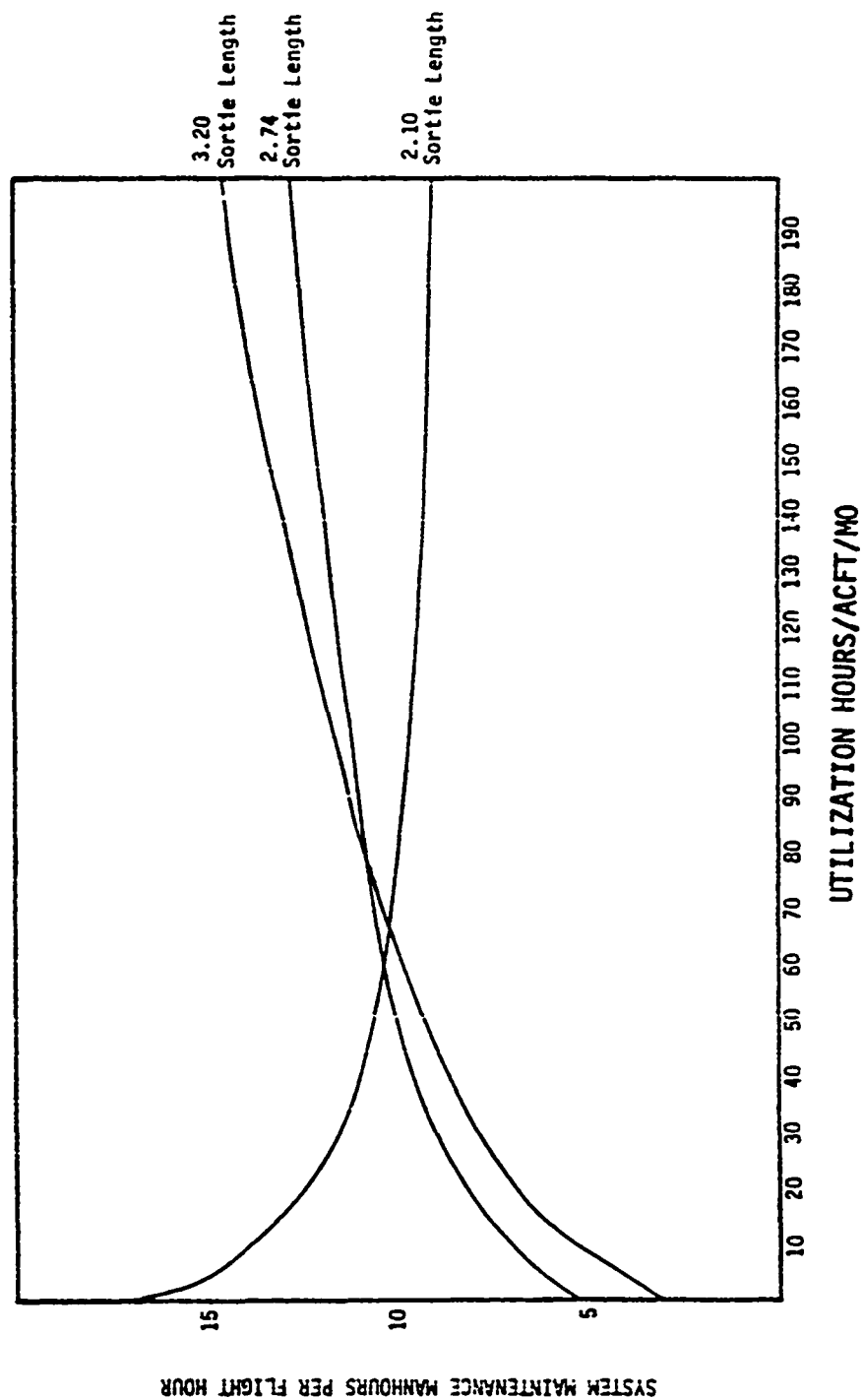


FIGURE 17 C-130E MMH/FH VERSUS SORTIE LENGTH AND UTILIZATION

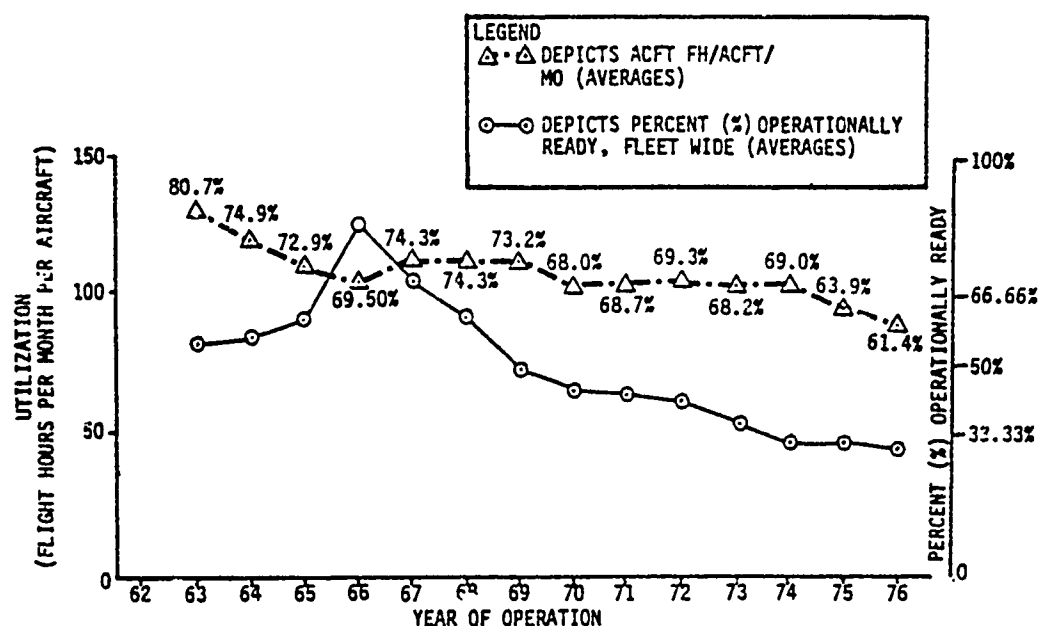


FIGURE 18 C-130E UTILIZATION AND PERCENT OPERATIONAL READY VS YEAR OF OPERATION.

MAINTENANCE

Analysis of the statistical maintenance data showed an average 15 year maintenance manhour per flight hour (MMH/FH) of 21.98 broken into support general 10.10 organizational 7.80, intermediate 2.86, and TCTO 1.22 (depot 1.12 and base .10). Table 30 presents a breakout of the maintenance manhours by aircraft system along with troubleshooting MMH/FH, 6.82 and maintenance tasks, 34.22/FH. Of the twenty-nine systems in the aircraft, 6 (turboprop power plant, airframe, fuel, hydraulic propeller, radar navigations, and landing gear) accounted for 59.31 percent of the total systems maintenance manhours. Figure 19 presents a manhour percentage distribution for the systems.

Organizational and intermediate system troubleshooting maintenance manhours accounted for 6.39 percent of the systems maintenance. Three systems, fuel, turboprop power plant, air conditioning, and pressurization accounted for slightly over 41 percent of the troubleshooting

TABLE 30 C-130E MAINTENANCE - RELIABILITY STATISTICAL SUMMARY
(ALL VALUES ARE 15 YEAR (1962-1976) AVERAGES PER 1000 FLIGHT HOURS)

SYS NO.	SYSTEM NAME	ORG. & INT. TASKS	ORG. & INT. MAINT. HRS	FAILURES	ORG. REMOVALS	TROUBLE- SHOOTING HRS	ABORTS GROUND FLIGHT	CORPTS REPAIR- ED OFF BASE	COND COM- COM- DENIED HRS
11	AIRFRAME	362.6	1357.0	330.02	35.4	10.2	.08	0.83	0.88
12	COCKPIT AND FUSELAGE	248.8	470.3	134.89	32.7	3.8	.12	0.48	2.31
13	LANDING GEAR	236.1	735.7	127.65	43.9	29.9	.38	29.68	3.86
14	FLIGHT CONTROLS	136.4	468.4	99.14	13.0	15.9	.24	2.65	0.28
22	TURBO PROP POWER PLANT	519.5	1406.5	245.33	87.5	83.9	2.00	27.75	5.53
24	AUXILIARY POWER PLANT	57.2	194.7	21.57	8.4	21.0	.10	2.40	0.18
32	HYDRAULIC PROPELLER	218.7	913.1	87.92	46.9	23.4	1.15	3.96	0.47
41	AIR CONDITIONING, PRESSURIZATION	124.7	414.5	67.18	24.9	70.3	.32	11.67	1.72
42	ELECTRICAL POWER SUPPLY	84.3	241.0	30.97	15.7	26.4	.26	2.50	0.91
44	LIGHTING SYSTEM	103.2	172.5	102.79	17.3	17.9	.02	0.14	0.22
45	HYDRAULIC AND PNEUMATIC	120.4	335.8	77.26	16.1	14.1	.23	7.14	0.66
46	FUEL	195.4	959.6	63.81	5.5	127.0	.19	5.11	0.24
47	OXYGEN	30.0	72.1	11.94	6.1	9.8	.06	3.67	0.14
49	MISC. UTILITIES	43.6	175.7	23.42	5.9	16.4	.17	1.7	1.20
51	INSTRUMENTS	124.1	376.5	70.48	31.3	52.7	.12	34.35	6.12
52	AUTOPILOT	80.8	232.9	35.86	18.7	45.2	.12	8.62	0.0
53	NAVIGATION AID, & RECORDING EQUIP.	0.3	1.3	0.05	0.1	0.0	-	6.02	0.0
61	HF COMMUNICATIONS	26.9	134.4	17.68	6.2	7.0	.00	0.42	0.15
62	VHF COMMUNICATIONS	15.4	55.5	8.58	3.6	2.4	.02	0.16	0.04
63	UHF COMMUNICATIONS	63.3	231.4	30.34	14.7	5.5	.02	1.07	0.53
64	INTERCOM	58.2	112.9	38.96	16.6	6.5	.02	0.24	0.27
65	IFF	33.9	110.5	15.12	8.9	4.7	.04	0.96	0.35
66	EMERGENCY COMMUNICATIONS	33.4	44.7	6.31	8.2	4.3	.02	0.80	0.12
67	MISC. COMMUNICATIONS	10.2	12.5	18.90	1.7	0.2	.0	0.06	0.12
71	RADIO NAVIGATION	191.4	410.1	66.75	45.7	29.5	.02	3.82	0.70
72	RADAR NAVIGATION	270.5	873.4	115.94	64.9	60.6	.07	9.79	0.91
91	EMERGENCY EQUIPMENT	29.8	78.6	5.38	14.2	0.0	.0	0.65	0.32
96	PERSONNEL EQUIPMENT	0.5	1.2	0.06	0.0	0.0	.0	0.0	0.0
97	EXPLOSIVE DEVICES	2.2	2.8	0.11	1.7	0.0	.0	0.0	0.0
TOTALS		3421.6	10667.2	11874.31	635.8	681.9	5.69	160.01	23.38

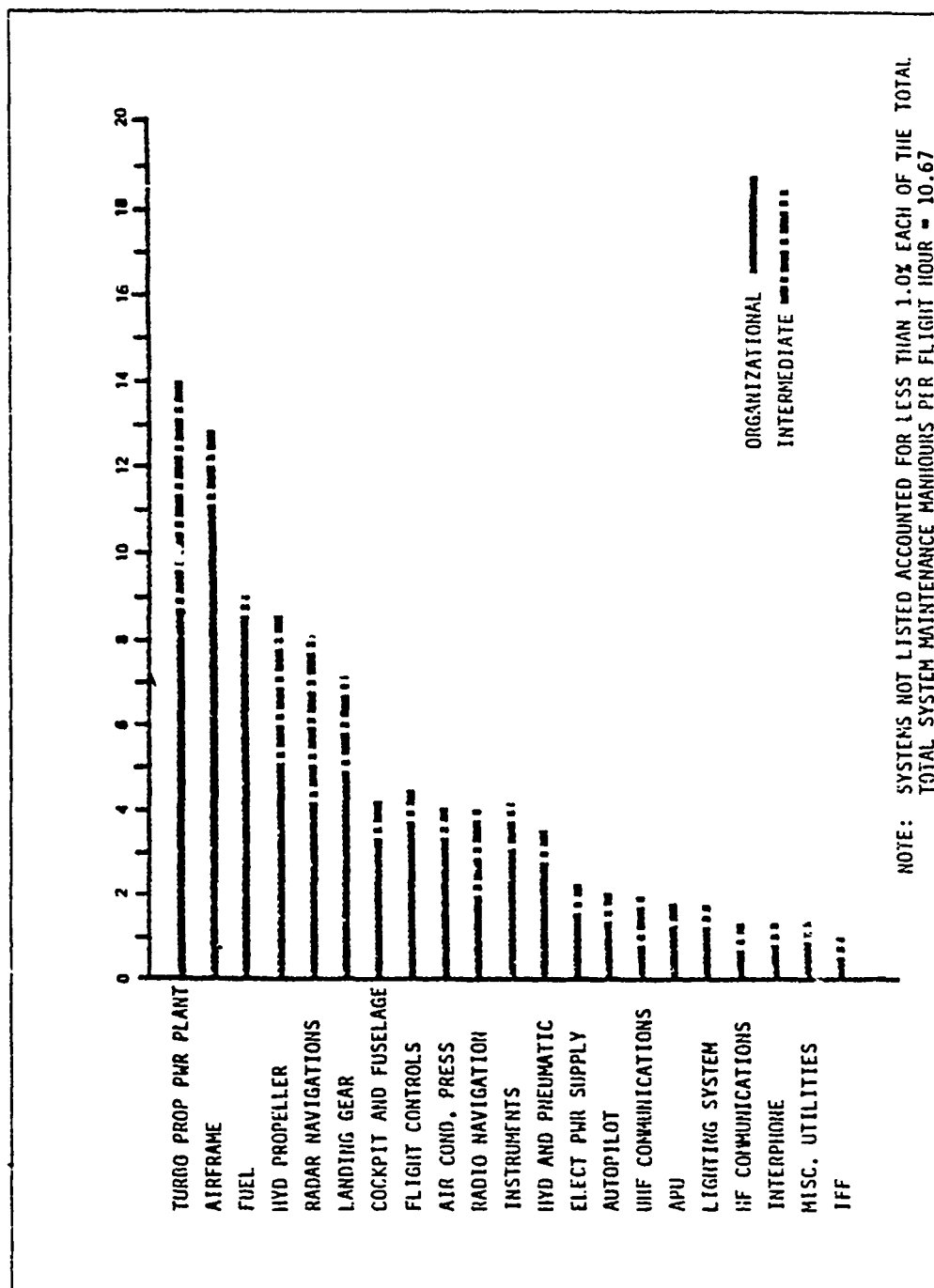


FIGURE 19 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE SYSTEM MAINTENANCE MANHOURS

manhours indicating difficulty in isolating causes of malfunctions in these systems. Figure 20 presents a troubleshooting manhour percentage distribution for the systems.

A percent distribution of organizational and intermediate tasks is shown in Figure 21. Organizational tasks accounted for slightly more than 82 percent of the 342.6 tasks per 1000 flight hours. Two systems, turboprop power plant and airframe were responsible for over 25 percent of the total. Organizational removal tasks, illustrated in Figure 22, accounted for slightly more than 18 percent of these total tasks.

Also, C-130E maintenance trends encompassing the 1962-1976 time period were established. The top 10 (by rank order assigned) component manhour consumer encompassing 18 work unit codes (WUC's) were established for the period of 1971-1976. Table 31 provides a rank order synopsis of each of the top ten contenders. Generally, these top ten manhour consumers ranked in 1971 continued to be major consumers of manhours throughout 1972 through 1976. The rank order positions of those top ten manhour consumers/component in 1971 show the customary departures during 1972-1976. However, at least 6 of the 1971 top ten components continue to remain as top ten manhour consumers during 1972 through 1976.

Figure 23 reflects the organizational removal tasks and depicts the 1962 through 1976 trend. A line of estimated "best fit" has been plotted for visual display purposes. It is apparent that there has been and most probably will continue to be, a general increase in the number of organizational removal tasks per 1000 flight hour as the weapon system continues to age. The majority of these removal tasks involve engine assembly, propeller assembly, fuel tanks fuel indicator and control subsystems.

Figure 24 depicts a composite of Organizational, Field and Avionics Maintenance Squadron tasks per 1000 flight hours. Again, an estimated line of "best fit" for both maintenance echelons was plotted as a means of reflecting historical as well as projected trends. A positive, upward trend in intermediate and organization maintenance tasks can be expected in the future. Although the aircraft utilization rate, i.e., flying hours per aircraft per month, shows a downward trend, the maintenance tasks show an inverse relationship. The argument is frequently stated that "maintenance goes up when flying rates go down merely because the aircraft is available." This argument, although having some merit to it, still serves as a deserving simplistic approach to maintenance. Aging of aircraft flight hardware, plus the relatively low availability of replacement parts is one significant factor contributing to the general upward trend of maintenance tasks per 1000 flight hours.

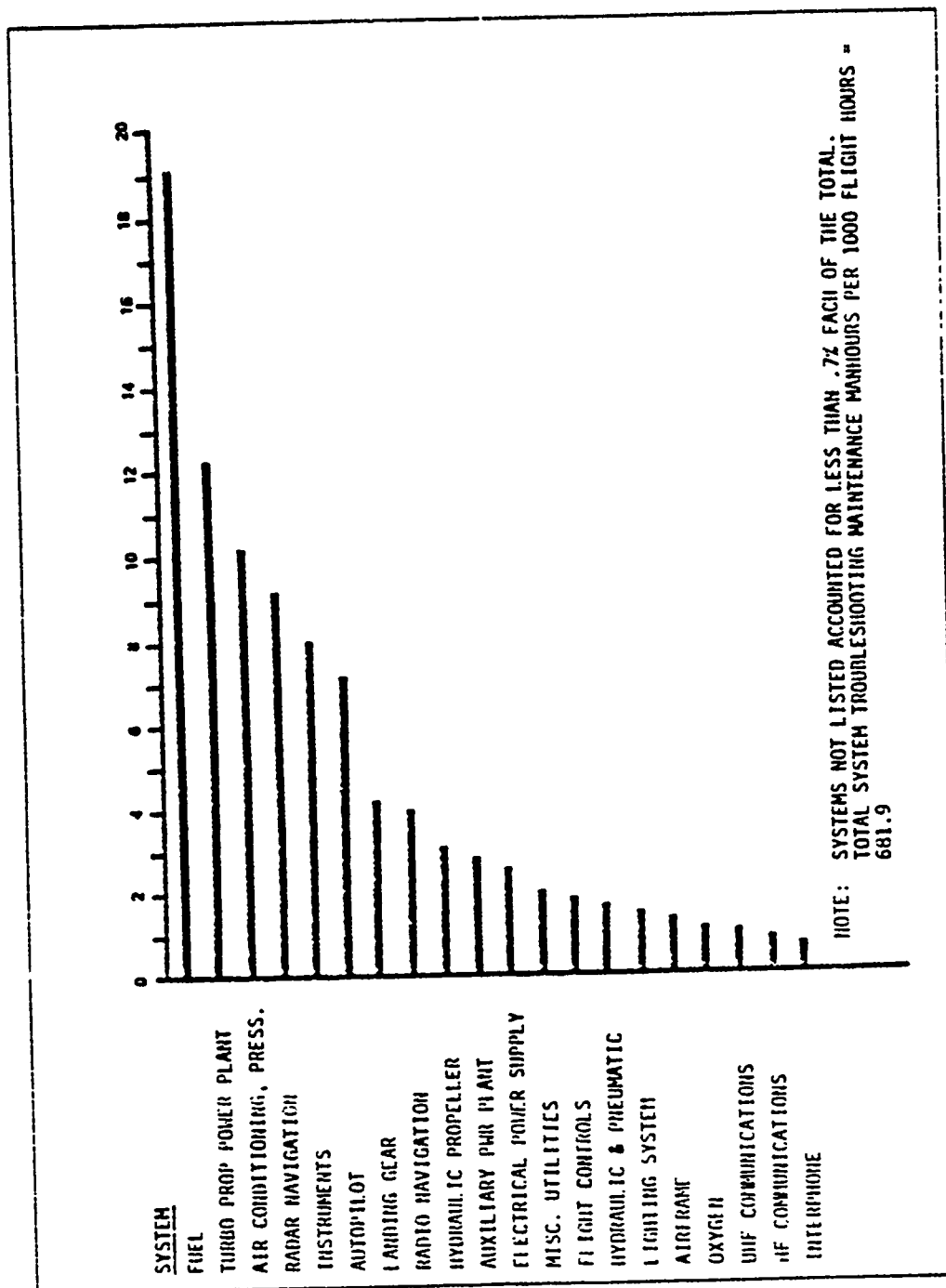


FIGURE 20 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE SYSTEM TROUBLESHOOTING MAINTENANCE MANHOURS (15 YEAR AVERAGE 1962-1976)

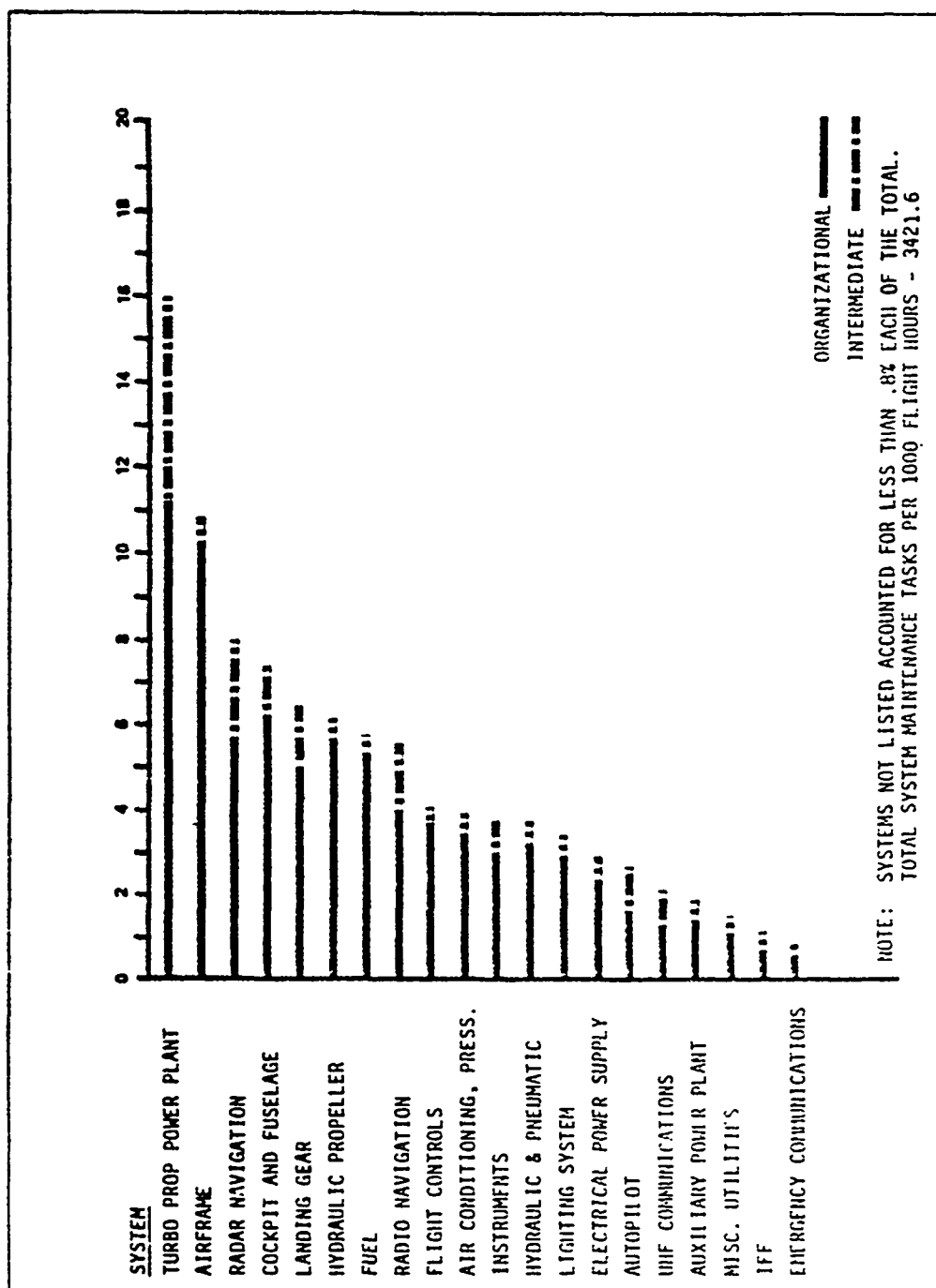


FIGURE 21 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE TASKS
(15 YEAR AVERAGE 1962-1976)

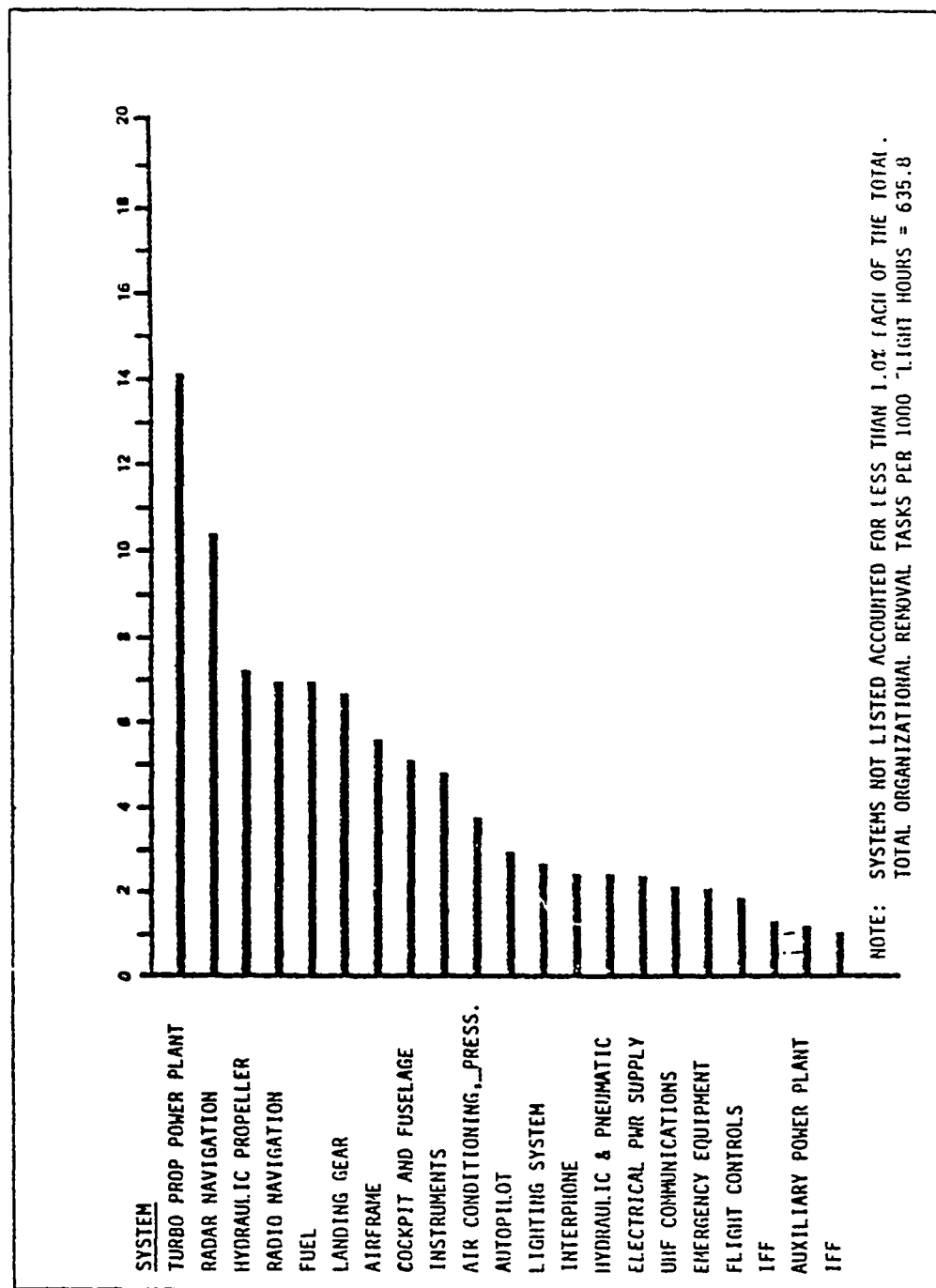


FIGURE 22 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL REMOVAL TASKS
(15 YEAR AVERAGE 1962-1976)

TABLE 31 C-130E TOP TEN COMPONENT-MANHOOUR CONSUMER

[illegible]

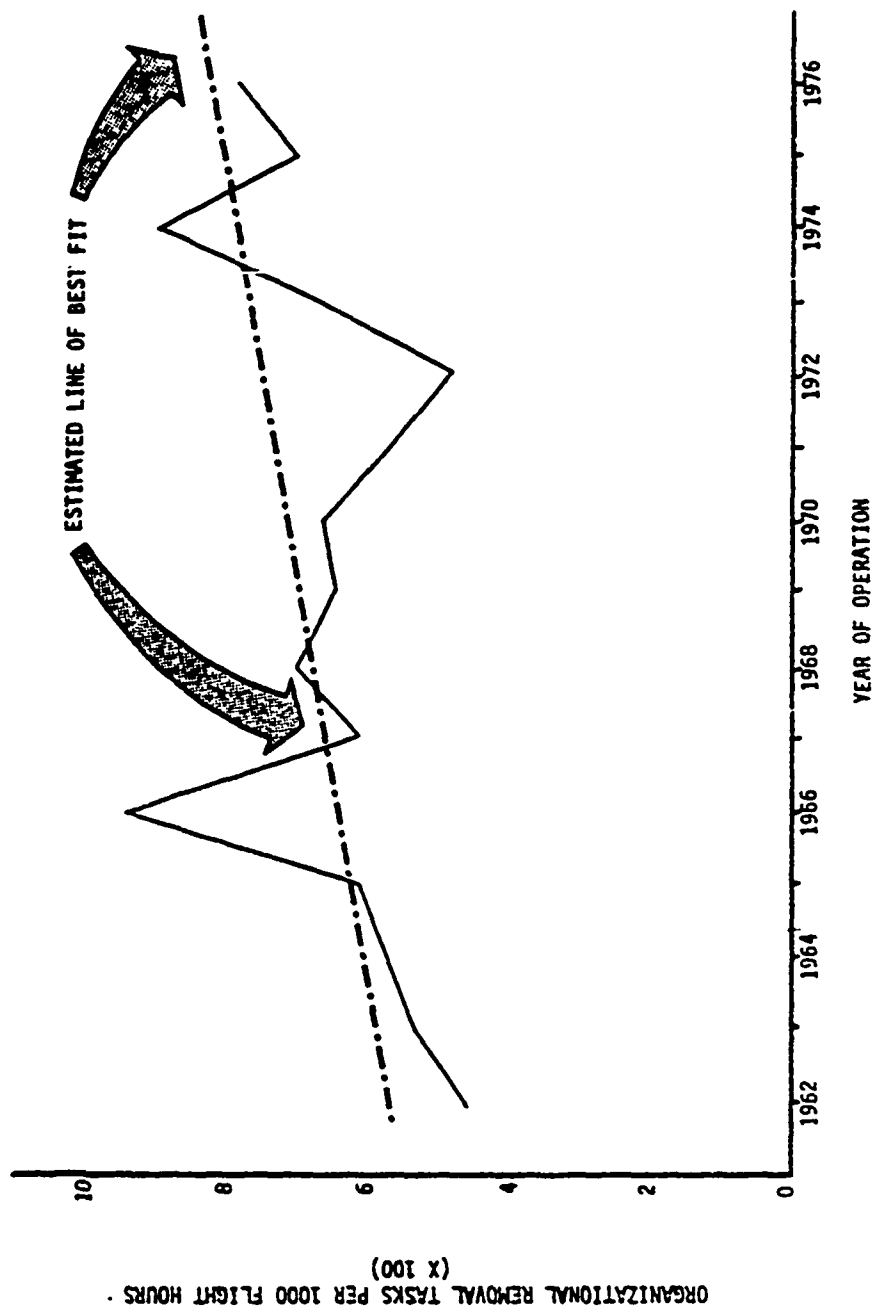


FIGURE 23 C-130E ORGANIZATION REMOVAL TASKS VS YEARS OF OPERATION

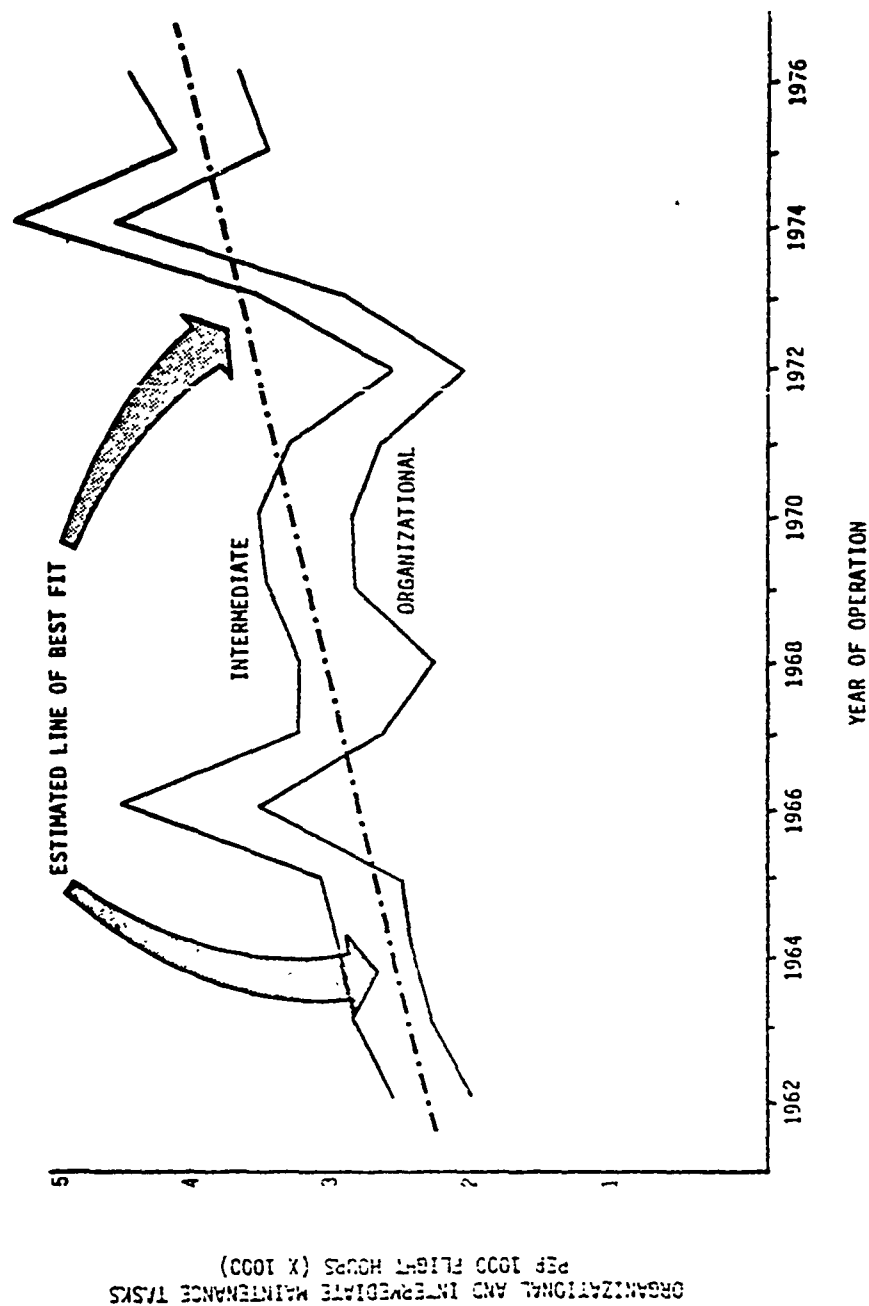


FIGURE 24 C-130E ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE TASKS VS YEARS OF OPERATION

A general upward trend in support general, organizational, and intermediate maintenance manhours can be seen in Figure 25. A high maintenance manhour profile is apparent during the high Southeast Asian utilization period of 1965 through 1968 with a downward profile occurring until 1972 followed by another upward maintenance surge through 1976. Not apparent in this figure is the fact that the flying rate per month per aircraft has dropped significantly since the Southeast Asian involvement. It appears that a continued upward trend can be forecast re: maintenance hour rates. TCTO installation hours reflect a dramatic drop in recent years. This is supported by the relatively small proportional contribution in maintenance hours since 1974.

RELIABILITY

From a reliability viewpoint, six systems - airframe, cockpit and fuselage, landing gear, turbo prop power plant, lighting, and radar navigation - accounted for 57.4 percent of the total system failures, 1874.31 per 1000 flight hours. Four of these - airframe, landing gear, turboprop power plant, and radar navigation - were also in the high maintenance manhour category. The remaining two systems - cockpit and fuselage, and lighting - ranked 7th and 17th respectively in maintenance. A failure is charged to a component whenever maintenance is necessary to restore it to a satisfactory operating condition. This definition includes actions/tasks such as adjustments, calibration, and repair or replacement of attaching parts. Figure I-1, Appendix I, displays a percent distribution of the 15-year average failures by system.

It is apparent from Figure I-2, Appendix I, that the generally upward slope of failure rate is indicative of an aging aircraft.

A percent distribution of components repair off base by system is shown in Figure I-3, Appendix I. Four systems - instruments, landing gear, turboprop power plant, and air conditioning-pressurization, accounted for 64.6 percent of the total 160.01 components repaired off base per 1000 flight hours. This grouping of systems would be expected for a cargo type aircraft as the components, sealed instruments, fire recap, and engine parts, are typically not repaired at the intermediate level. In general, a downward trend is being experienced in this area, Figure I-4, Appendix I, indicating greater base self-sufficiency.

The percent distribution of components condemned, Figure I-5, Appendix I, indicates that four systems out of the 29 accounted for 57.4 percent of the total 23.38 per 1000 flight hours condemn value. In order of significance, these systems are turboprop power plant, landing gear, cockpit and fuselage, and air conditioning, pressurization. Figure I-6, Appendix I, illustrates a decided drop in components condemned during the 15-year life of the aircraft, 1962 through 1976. The highest reported value was 50.15 per 1000 flight hours for 1962 and a low of 9.15 for 1972.

Only material aborts are covered in this report. Other types of aborts such as weather, higher headquarters, etc. were not acquired. Figure I-7, Appendix I, presents a percentage distribution by system of aborts divided into a ground or flight type. The aborts split almost equal with ground accounting for 51.9 percent and flight 48.1 percent.

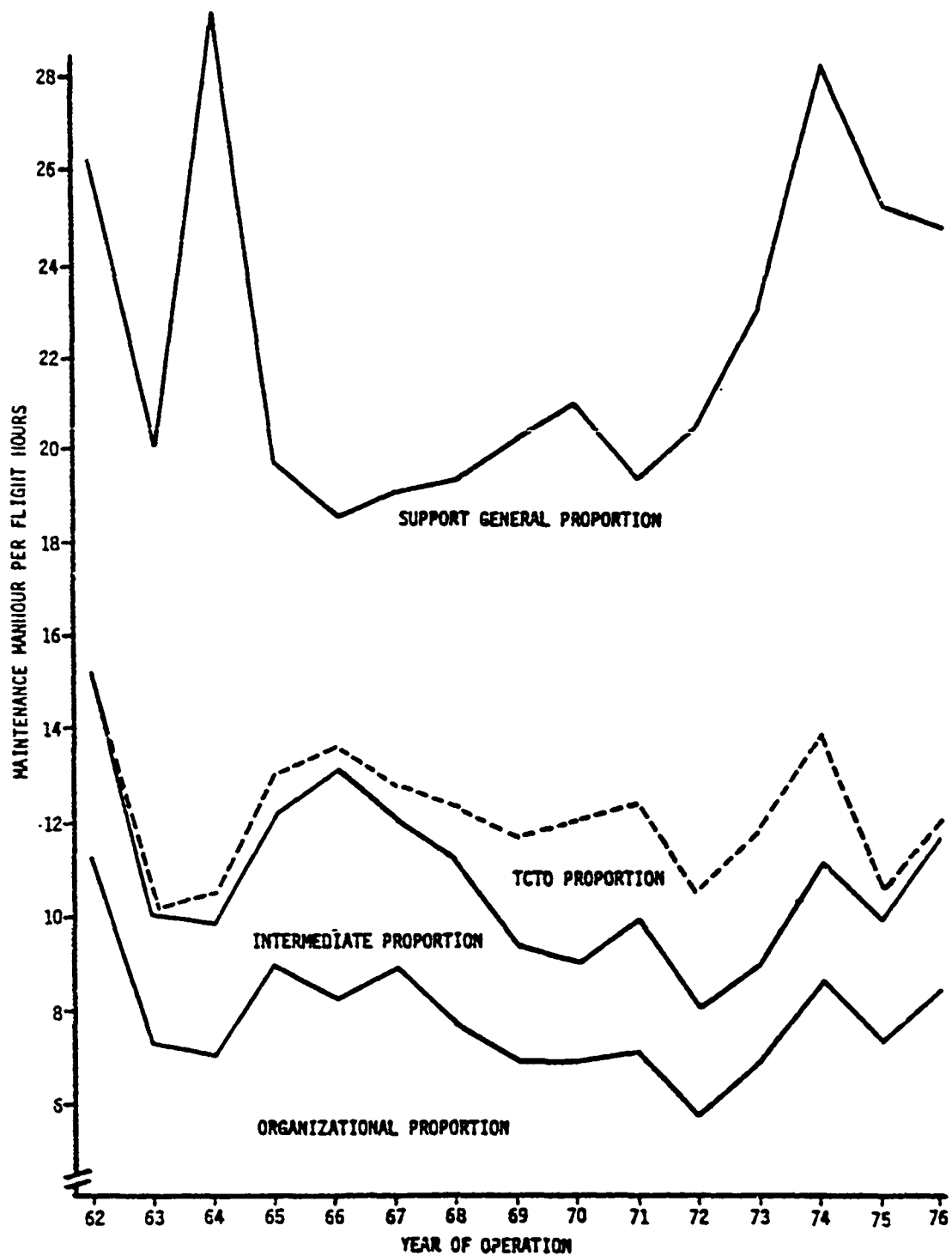


FIGURE 25 C-130E ORGANIZATIONAL AND INTERMEDIATE SYSTEM MAINTENANCE MANHOURS AND TCTO (BASE AND DEPOT) MAINTENANCE MANHOURS PER FLIGHT HOUR VS YEAR OF OPERATION

Two systems, turboprop power plant and hydraulic propellers, accounted for exactly 50 percent of all aircraft aborts. Ground type aborts were in turn responsible for 57.5 percent of the aborts in the two systems.

Figure I-8, Appendix I, portrays the yearly abort rate (ground and flight) for the 15 study years. Although peaks occurred in 1966, 1971, and 1974 as a result of extensive aircraft operational involvement, the general trend was relatively stable.

The rank order of the top 10 component failures impacting organizational and intermediate maintenance for years 1971-1976 are depicted in Table 32. The top 10 ranked during 1971 reflect a wide range of variances apparent during each succeeding year, namely, 1972-1976. These rank order distributions encompassed 27 individual work unit codes (WUCs) (Reference Table 32). Current items reflecting highest failure rates include: a) blade assembly, b) wheel well assembly, c) floor panel assembly, d) B-nut, P/O hydraulic pneumatic valve, e) cooling, and f) center cargo insulation blanket. Also indicated, but not succinctly stated is the fact that components failing during particular year(s), when replaced or fixed by corrective action, precluded continued failure during subsequent years. Component items that initially showed high failures, continued to rank in the top 10 most failed list until corrective action was taken to resolve failure etiologies. Implied is the obvious fact that many components not failed and not scheduled for repair action accumulate "a time to fail profile." This is borne out by the listing of new and/or different failed components in 1972 when compared to 1971, 1973 when compared to 1972, 1974 when compared to 1973 and so on through 1976.

The depot repair tasks per 1000 flight hours is shown in Figure I-9. Excluding the miscellaneous "system," radar navigation, landing gear, fuel, and air conditioning/pressurization accounted for almost 44 percent of the total 584.127 depot actions per 1000 flight hours. Figure I-10, presents the percent distribution of all C-130E identified depot repair tasks by system.

TABLE 32 C-130E TOP TEN ORGANIZATIONAL AND INTERMEDIATE COMPONENT FAILURES

WIC	NOMENCLATURE	1971		1972		1973		1974		1975		1976	
		RANK	% OF SUBSYS.	RANK	% OF SUBSYS.	RANK	% OF SUBSYS.	RANK	% OF SUBSYS.	RANK	% OF SUBSYS.	RANK	% OF SUBSYS.
46110	INTEGRAL (MAIN) TANKS	1	37.22	1	37.66	1	48.37	1	33.98	12	2.80	-	-
22116	FILTER ASSEMBLY	2	8.68	8	6.95	-	-	-	-	-	-	-	-
11541	CONVING	3	6.46	3	7.18	4	7.47	3	6.15	3	4.83	5	4.45
22603	FILTER ASSEMBLY	4	8.15	-	-	10	5.81	-	-	-	-	-	-
11436	WHEEL WELL ASSEMBLY	5	6.32	4	6.66	5	6.48	2	6.80	1	7.42	2	6.74
3252N	FILTER ASSEMBLY	6	23.31	6	10.60	6	17.35	-	-	-	-	10	13.18
452AP	B-HUT	7	24.96	6	26.49	7	26.82	4	29.42	4	31.34	4	33.40
32525	VALVE HOUSING ASSY (TC1)	8	19.79	7	16.76	9	14.32	10	17.90	-	-	-	-
71310	REC/TRANS. AIR/ARM-21, TACAN SYS	9	25.29	-	-	-	-	-	-	-	-	-	-
22610	AIR FILTER - T.D.	10	6.81	10	6.69	-	-	8	6.65	6	6.77	7	6.73
13721	TURNS, MAIN	-	-	2	22.69	-	-	-	-	-	-	-	-
12020	DETENT LATCH ASSY, LEFT	-	-	9	19.47	-	-	-	-	-	-	-	-
12010	CONVEYOR ASSY (SECT 1-24)	-	-	-	-	2	14.88	-	-	-	-	-	-
12014	ROLLER ASSEMBLY	-	-	-	-	3	13.86	-	-	-	-	-	-
12010	DETENT LATCH ASSY, RIGHT	-	-	-	-	8	7.21	-	-	-	-	-	-
44271	LIGHT ASSY, PANEL	-	-	-	-	-	-	5	13.53	-	-	-	-
12313	TROOP SEAT	-	-	-	-	-	-	6	9.58	-	-	-	-
44165	LIGHT ASSEMBLY, FORMATION	-	-	-	-	-	-	7	13.15	-	-	-	-
44211	LIGHT ASSY, NONE, CARGO COMP.	-	-	-	-	-	-	9	10.08	-	-	-	-
22703	ENGINE AND DEC SYSTEM	-	-	-	-	-	-	-	-	2	9.47	-	-
32611	BLADE ASSEMBLY	-	-	-	-	-	-	-	-	5	21.27	1	28.61
1161	LEADING EDGE	-	-	-	-	-	-	-	-	7	3.33	-	-
1141	FLOOR PANEL ASSEMBLY	-	-	-	-	-	-	-	-	8	2.94	3	5.06
11520	TRAILING EDGE	-	-	-	-	-	-	-	-	9	2.83	-	-
12410	INSULATION BLANKET, CENTER CARGO	-	-	-	-	-	-	-	-	-	-	6	10.14
1231R	INSULATION BLANKET, FORWARD CARGO	-	-	-	-	-	-	-	-	-	-	8	8.30
1162C	LEADING EDGE	-	-	-	-	-	-	-	-	-	-	9	3.38
TOP TEN COMPONENT FAILURES		11.43		11.31		12.82		10.87		9.79		10.26	
TO TOTAL C-130E WEAPON SYSTEM (5)													

SAFETY

Analyses of recorded unplanned events (accidents) during the 1962-1976 time period reflect the following trends, namely: a) the occurrence of unplanned events (major and minor accidents) began an upward trend in 1964 with a peak occurring in 1967, and b) a downward trend is apparent between 1967 through 1971 with a slight bi-modal increase noted in 1972 and 1974. The numbers of total unplanned events per year reflect a positive correlation to flight hours logged per year. Figure 26 provides a graphic scenario of major, minor, and total numbers of accidents that occurred since 1962. To date, a general downward trend of unplanned events (both major and minor accidents) is evident since 1972. It is expected that this level, attained in 1976, should remain at its present stage, if the numbers of flight hours, hence exposure level, remain steady state. This presumes that no major or cumulative fault side operations and/or maintenance practices are allowed to creep into current practices.

Figure 27, provides a graphic display of ratios of major and minor damaged aircraft and fatal accidents that have occurred per each 100,000 flight hours logged. A general upward trend in major and minor accident rates is apparent during the years of 1962 through 1967 followed by a downward profile in the ensuing years of 1968 through 1971. The highest ratios of accidents per 100,000 flight hours occurred in 1972 and 1974 with a dramatic drop thereafter. An upward trend in fatal accidents is evident from 1964 through 1972 with a subsequent downward trend recorded during the near term periods of 1973 through 1976. Extant within Figure 27 is a tabulation of the rates (ratios) of C-130E aircraft destroyed per 100,000 flight hours. For example, in 1963, there were 1.2 aircraft accidents per 100,000 flight hours with a concurrent destroyed aircraft ratio also of 1.2. In 1964, the accident ratio was 1.3 with a destroyed aircraft ratio of 0.00.

Further analyses of data concerning the flight or operating phases of the aircraft most likely to result in accidents has evolved the following historical profiles, viz:

1. Most unplanned events can be expected to occur during landing. An average of 59% of all unplanned events occur during the landing phase, with the majority of these occurring during flareout (30%), followed by roll (19%) and approach (10%).
2. Unplanned events occurring inflight, ranks as the second highest accident category with a 15 year historical profile of 17%. The majority of these occur during normal flight (9%), followed by low level flight (7%) and descent (1%).

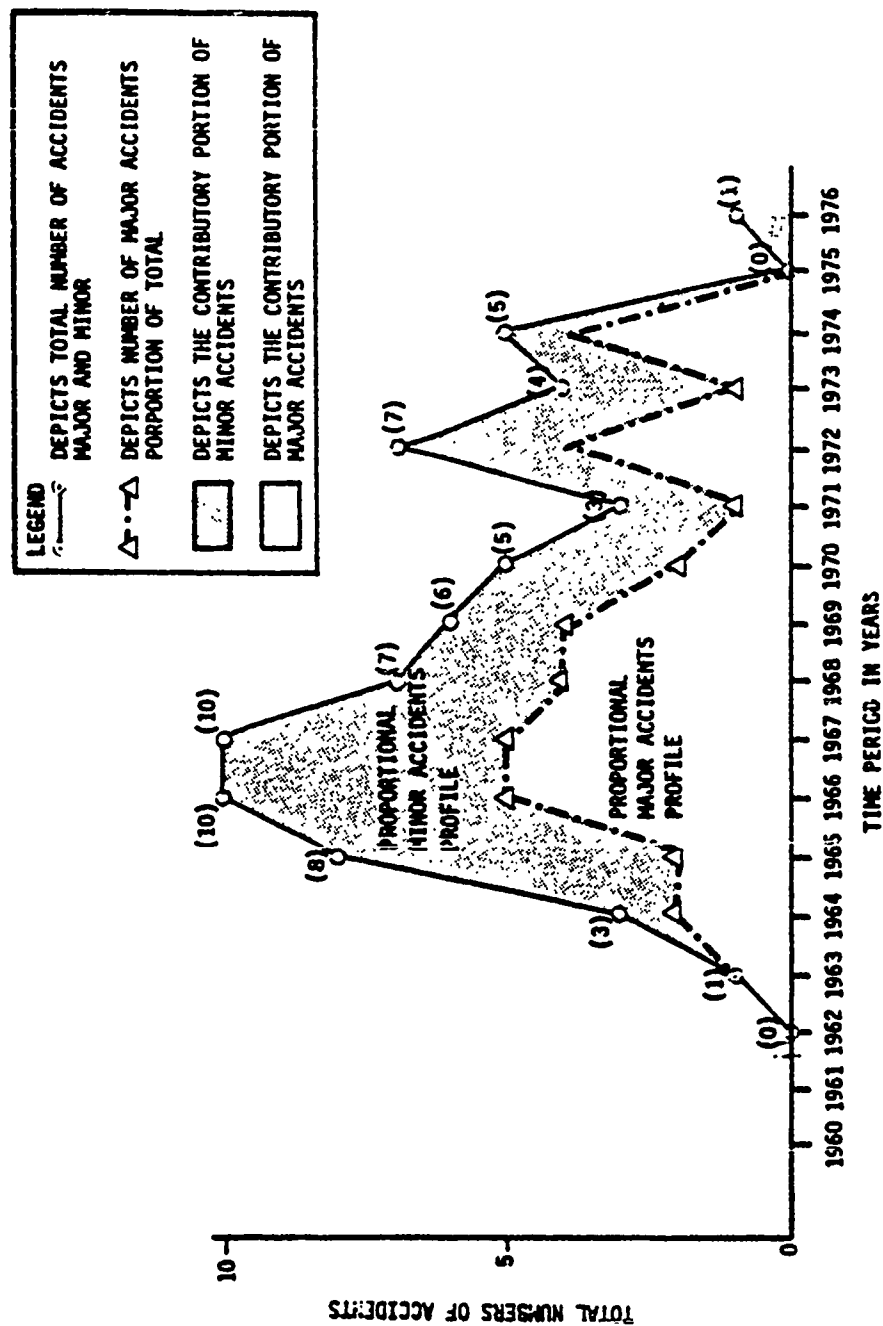


FIGURE 26 C-130E FLIGHT ACCIDENT SUMMARY - 1962 THROUGH 1976

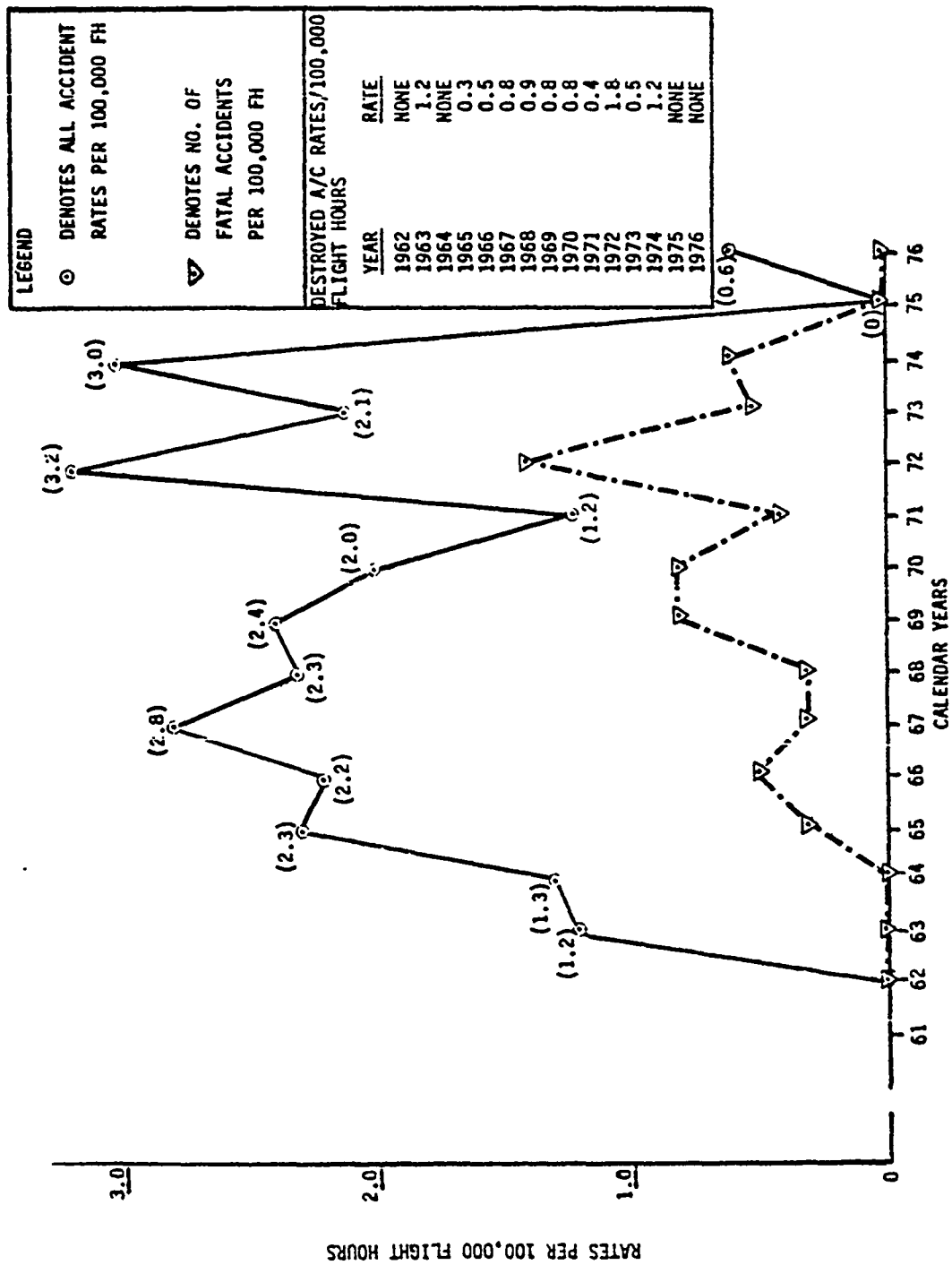


FIGURE 27 C-130E: ALL ACCIDENT AND FATALITY RATES PER 100,000 FLIGHT HOURS

3. Nine percent (9%) of all unplanned events occurred during taxiing (6% to takeoff and 3% taxiing from landing).
4. Seven percent (7%) of all unplanned events occurred during takeoff. Three percent (3%) occurred during roll, three percent (3%) occurred during initial climb and one percent (1%) occurred as a result of discontinued takeoff.
5. The remaining unplanned event phases of flight operations that contribute to this proportional non-safety mosaic are:
 - a. Four percent (4%) occur during flight go-around and pre-meditated touch-and-go exercises.
 - b. Four percent (4%) occur while the engines are running but the aircraft is not taxiing.

HUMAN RESOURCES

Maintenance Manpower

Present maintenance manpower resource levels indicate an existing maintenance manpower profile of almost 28 personnel (officers, enlisted and civilian) per C-130E aircraft. Reference Section III above for detailed information. A definite downward trend in Air Force personnel has occurred subsequent to 1972 due to planned reductions in force. However these reductions have not been apparent concerning the C-130 weapon system subsequent to the reductions that occurred in 1972. Table 33 below provides a summary of the numbers of officers, enlisted and civilian personnel totals from 1962 through 1976.

TABLE 33 -C-130E PERSONNEL AND POSSESSED AIRCRAFT BY YEAR

<u>YEAR</u>	<u>TOTAL PERSONNEL</u>	<u>POSSESSED AIRCRAFT</u>
1962	305	11
1963	2303	83
1964	6265	226
1965	8732	315
1966	8178	295
1967	8068	291
1968	7733	279
1969	8011	291
1970	8426	304
1971	8953	323
1972	8262	298
1973	8118	293
1974	8178	295
1975	8206	296
1976	8233	297

The accrual of personnel during the years of 1962 through 1965 is due to the large influx of delivered C-130 aircraft during these years. Although waveform fluctuations in total personnel occurred subsequent to 1965, a definite historical trend upward or downward is not evident except for 1971. Analyses of assigned manpower profiles by work center show that the majority of the C-130 maintenance personnel are located within the Field Maintenance Squadrons, followed by the Organizational Maintenance Squadrons, Avionics Maintenance Squadrons and Deputy Commander for Maintenance areas. The relative proportional weights of personnel per Unit of Equipment (UE) at these respective locations are: 1) FMS = 39.369%; 2) OMS = 32.350%; 3) AMS = 17.989; and 4) DCM = 10.305%. It is presumed that these percentiles expressed above will continue during the ensuing years, irrespective of the numbers of possessed C-130 aircraft.

Operations Manpower

Operations manpower profiles (i.e., pilots, co-pilots, navigators, flight engineers, and loadmasters) are expected to remain at a steady state, providing the aircraft utilization rates remain essentially unchanged. At present, crew ratio of 2.0 per aircraft is in effect. Crew profiles, as discussed in Section III above, indicate a leveling off since 1971. Future trends in flight crew numbers are difficult to project as they are sensitive to aircraft utilization demands. These demands, such as movement toward a war readiness posture induce a surge that can only be accommodated by increased crews providing utilization rates exceed 4.0 flying hours per day per aircraft.

Field Training

Current trends of Field Training Detachment workloads are expected to remain at a steady level of about 1,027 graduates per year per C-130 FTD at a rate of 44,400 annual trainee hours per FTD. Again, this is subject to dramatic upward shifts if C-130 logistics support rates increase due to extended surge demands.

Educational Backgrounds - Officer Personnel

Historical records, acquired from the Computational Sciences Division, Air Force Human Resources Laboratory, Lackland AFB, Texas, clearly show the upward trend of achieved academic status. In brief, 1962 through 1976 data reflect the following educational historical profiles of maintenance officer personnel:

1. Non-high school graduate personnel are not officer rated.
2. Significant drops in numbers of high school graduates holding officer ratings have occurred over the past 15 years (from 2383 in 1962 to 84 in 1976).

3. Few officer rated personnel attend college without graduating.
4. More officer rated personnel successfully matriculate (Bachelor degrees) in today's environment that existed in the early and late 1960's.
5. More officer rated personnel receive advanced degrees (Master's and above) than in previous years. This is particularly true since June 1972.
6. The numbers (stated in proportional values) of officer rated personnel attending post-graduate courses subsequent to receipt of Master's degree certification is essentially unchanged.
7. A slight proportional increase in the numbers of Doctorial certified officers has occurred.

These trends are expected to continue as advanced Air Force technologies are introduced into future systems.

Educational Backgrounds - Enlisted Personnel

In general the trends summarized for officer personnel above also apply to enlisted personnel. Fewer enlisted personnel are non-high school graduates in 1976 compared to numbers recorded in previous years. Proportionately more enlisted personnel are attending college and/or matriculating with bachelor's degrees than in previous years. These trends are expected to continue.

MATERIAL RESOURCES AND COST DATA

These two areas, although extensively discussed as separate identities within this report, are combined at this point for two reasons: a) both are dollar oriented, and b) a common-theme was evident. This theme or message was that no actual historical material or cost data had been collected or maintained over the life cycle of the weapon system and that no single data source exists that collects and maintains total historical cost data.

Within Material Resources and Cost Data, various data collection systems are discussed as to their respective purposes and results presented, however fragmentary, as they applied to this study. It is suggested the reader carefully review the limitations and intent of the system in question prior to the application of values shown.

V CONCLUSION

SYNOPSIS

This report describes the work accomplished under Task III and IV of a six task study to "Historically Analyze the Resource Utilization Profiles of C-130E." The purpose of Task III was to identify, locate, collect and analyze all available C-130E data in Air Force data files, archives and data systems. This data, coupled with the published literature acquired and evaluated during Task II (Ref. 10), became the input to Task IV.

The objectives of Task IV were: a) to develop a data matrix that evaluates the various data sources, b) to develop techniques and computer process the data collected, and c) to statistically analyze and package the data for presentation and use in this report. Detailed analysis of what the data may reveal about the C-130E aircraft and its design, operation and maintenance was not within the scope of this study.

Results of the work accomplished during Task III and IV included in this report are: a) development of an extensive collection of C-130E historical data elements (Section II), b) development of a data evaluation matrix (Section II), c) a data sources and agencies table (Appendix A), and d) extensive tables and graphs (Section III) depicting the fifteen year historical profile of the C-130E Hercules aircraft including:

- Quantified organizational and intermediate and corrective maintenance manhours by sub-system, per 1000 flight hours.
- Distribution of corrective maintenance tasks by sub-system.
- Organizational and intermediate tasks by sortie.
- Organizational remove and install tasks per 1000 flight hours and component failures by system per 1000 flight hours and per sortie.
- Maintenance manpower estimates.
- Flight training histories.
- Time compliance technical order kits installed at base and at depot, including numbers and manhours.
- RDT&E, acquisition and O&S cost data.
- Educational levels of selected officer and enlisted Air Force skill codes.
- The C-130 MDS milestones, family tree and the C-130E system description.

All data acquired for the study were indexed into seven basic categories, i.e.; a) operations, b) maintenance, c) reliability, d) safety, e) human resources, f) material resources, and g) cost. In general, excellent weapon system data in the operational category was obtained for the 15 years of history. The maintenance, reliability and safety data categories were well documented. Scarcity of complete historical data were noted in the human resources, material resources and cost data categories. Therefore, statistical normalizing techniques were applied to the available data slices as the means of filling in missing years for selected data elements.

Despite some misgivings in some areas relative to the use of data from Air Force data systems for study purposes, this study has shown that one can derive a meaningful historical data base for others to use in predicting resource requirements for new, similar systems.

PROBLEMS

Some of the more significant problems were:

- A massive amount of data (6.1 million records and 900 reports, papers, articles, etc.) was collected and evaluated. Packaging and evaluating this data for logical presentation in a relatively few pages was a formidable task. There are any number of combinations in which the data could be packaged and displayed. The available time and study resources allocated did not permit investigation into the best displays of most practical approach. The contractor overcame this problem by the use of skilled personnel methods, techniques, computer programs and displays previously developed during twenty years of acquiring data from Air Force data systems/sources and applying the analyzed results to numerous Air Force programs.
- Much difficulty was encountered in sorting C-130E data from gross data on the C-130 MDS. This was especially true in the cost category and in the depot area.
- The general policy of USAF agencies to minimize historical data files, retaining data for short time periods only, as well as not having a central weapon system data repository had a profound affect on analytical results. Extrapolative and interpolative analytical results are always "second best" when attempting to evolve quantitative weapon system histories.
- In some cases, data requested were either not delivered or made available or sometimes arrived too late for analysis. This precluded quantitative compilation of meaningful, accurate historical profiles in some areas.
- Conflicting sources of data (e.g., number of possessed C-130E aircraft per year from 1962-1976), obviated or attenuated analytical progress. In some cases these conflicts could not be satisfactorily resolved.

- Compilation of fragmented and/or discontinuous data resulted in formulation of some scattered, discontinuous analytical results.

Most of the difficulties encountered were resolved through extensive conference telephone conversations with key personnel located within the multitude of USAF agencies visited by Boeing investigators. Data source summaries, compiled during field trips, served as an excellent "yellow page" directory for additional follow-up when conflicts or other difficulties were encountered. Conflicting data problems were primarily resolved via engineering judgment or by direct contact with the originating USAF agency(ies).

RECOMMENDATIONS

The following recommendations are made:

- The Air Force should develop and implement an integrated historical data center to accumulate and maintain the seven categories of data developed in this study, by weapon system (MDS). This would allow Air Force agencies and their contractors to use a common data base in making trade studies and in responding to proposals for new weapon systems and equipment.
- Meanwhile, additional historical data bases on selected Air Force systems should be developed as delineated in this study. It is recommended that each study extend for 18 months to 24 months to allow adequate time for data acquisition and analysis.
- Similar studies should cover a weapon system (MDS) family rather than a single selected model. Family differences could be accounted for in equipment and configuration differences.
- A study of Air Force data systems should be made to identify data deficient areas and the means for accumulating actual data for missing elements. Much of this could be done by sampling.
- The data evaluation pointed to many obvious areas for future investigation such as; why is fuel consumption at one base, twice that at another? Why are maintenance manhours so high on the system interface items such as wiring, plumbing, connections and fasteners? Is the planned training versus the actual task performance compatible? Why are so many after the fact modifications required and are they all necessary? What is the relationship between make work modifications cost and RDT&E cost?

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GLOSSARY OF TERMS

ABORT MATERIAL	Premature termination of a flight because of mission essential equipment failure.
ACCIDENT	An unplanned event that does damage to persons or property, exclusive of damage caused by action of an enemy or hostile force, see AFR 127-4 for exact definitions of different accident classes.
AEROSPACE VEHICLE	For the purposes of this manual, an aerospace vehicle includes all USAF owned aircraft and selected missiles (ADM, AGM-28, AQM, BQM, CIM, CGM, LGM, HGM, LV, and SLV).
AIRCRAFT ATTRITED	Aircraft lost from the inventory because of attrition.
AIRCRAFT MODIFICATION	<p>Class IV modifications are defined (AFR 57-4) as those retrofit changes required to insure safety of personnel, systems, or equipment by eliminating operational, nuclear, or physical hazard, necessary to correct a deficiency including one that effects reliability, maintainability, electro-magnetic compatibility, or communications security; or required for logistics support purposes. Class V modifications are defined (T.O. 00-25-30) as changes to the physical configuration or in the functional characteristics of a system or equipment. Class V modifications improve system operational capabilities and are often associated with changes in assigned mission. Aircraft modification provides for:</p> <ul style="list-style-type: none">a. Class IV and V modifications of:<ul style="list-style-type: none">(1) in-service aircraft(2) direct ground support equipment(3) training equipment (aircraft)(4) componentsb. Procuring, under HQ USAF approved and directed modernization/maintenance programs:<ul style="list-style-type: none">(1) modification kits and special tools

- (2) concurrent replacement of equipment taken from stock
- (3) peculiar ground support equipment
- (4) revised technical data and handbooks

c. Modifying in-inventory components.

AIRCRAFT PROCUREMENT

(Appr. 3010). This appropriation provides for fabricating and procuring aircraft weapon systems, modifications, direct ground support equipment, aircraft industrial facilities, spares and repair parts, war consumables, miscellaneous aircraft requirements, and first destination transportation. It includes procuring of Air Force Stock Fund items (except from the Stock Fund), base procurement (see AFR 67-3), contract technical services (see AFR 66-18), engineering data, installing prototype modification under HQ USAF approved and directed modernization/maintenance programs, and labor required for Class IV and V modifications when the aircraft are a part of the scheduled modernization program for example B-52 for FY 1967 Program.

**AIRCRAFT REPLENISHMENT
SPARES AND REPAIR PARTS**

Are those required to support aircraft in the inventory, the modification and modernization program, war readiness material, and related support equipment, that is, AGE. Aircraft replenishment spares are those investment type items (recoverable and replacement) which are normally repaired and returned to stock. Investment type items are defined as repairable assemblies, spares and repair parts which are centrally managed. The cost of aircraft replenishment spares is funded out of Air Force Appropriation 3010, Aircraft Procurement.

AIRCRAFT SAMPLED

The number of aircraft included in the data sample - may not include all aircraft of a given model.

AIRCREW

The full complement of officers and airmen designated to man an aircraft in flight.

AIRCREW PERSONNEL

Personnel whose primary duty is to occupy aircrew positions.

AIR FORCE SPECIALTY CODE (AFSC)	A numerical designation of an Air Force Specialty. The meaning of the codes is specified in AFR 35-1, Military Personnel Classification Policy Manual.
AIRFRAME TIME	The average number of flight hours accumulated on the airframe of the fleet of aircraft sampled.
ATTACHING PARTS	This includes items such as seals, gaskets, electrical connections, fittings, etc. MDC action taken code "G".
AUTHORIZED ACTIVE INVENTORY (AAI)	The sum of UE authorized (to include the force UE plus UE required to train replacement crews) plus an allowance for not operationally available (NOA) (10% for force aircraft) plus those aircraft in test category for the purpose of improving the capabilities of the MDS concerned. This term refers to authorizations only and does not include physical assets.
AVERAGE FLIGHT LENGTH	The total flying hours divided by the number of sorties yields the average flight length.
AVERAGE UTILIZATION	The average number of hours flown by one aircraft in one month.
BASE MAINTENANCE	<ol style="list-style-type: none"> a. Base maintenance is that maintenance performed at base level by designated maintenance organizations. It generally consists of three types of maintenance: organizational or flight-line, field and periodic. b. The base maintenance cost factors include costs for military and civilian labor and expense material purchased from the Systems Support Division and the General Support Division of the Air Force Stock Fund. Military labor cost is funded out of Air Force Appropriation 3500, Military Personnel, while civilian labor and material costs are funded out of Air Force Appropriation 3400, Operations and Maintenance (O&M).
BENCH CHECK	Maintenance action to determine condition of an item entering intermediate (shop) maintenance. MDC action taken codes A through D and 1 through 9.

BENCH CHECK AND REPAIR	Item bench checked and performance of concurrent repair action. MDC action taken code "A".
BENCH CHECK (ONLY)	Item bench checked and no subsequent action. MDC action taken codes "B", "C", "D".
BENCH CHECK SERVICEABLE	Item found serviceable after bench check. MDC action taken code "B".
COMMAND OPERATING	The Air Force Command and geographical area which possess the aircraft under study.
COMPONENTS REPAIRED OFF BASE	See NRTS.
CONDEMNED	Items that cannot be repaired and are processed for condemnation, reclamation, or salvage, MDC action taken code 9.
CREW COMPOSITION	The number of pilots, navigators, electronic warfare officers, and airmen authorized as aircrew for a particular weapon system by Air Force Specialty Code (AFSC). It should be noted that crew composition is frequently varied by mission.
CREW RATIO (CR)	The aircrew-to-aircraft ratio reflecting the number of aircrews for each UE aircraft in the squadron.
DATA TIME PERIOD	Beginning and ending dates of the time period of the data sample; selected as representative because of consistency in operations and data reporting.
DEPOT MAINTENANCE	That maintenance performed on material requiring major overhaul or a complete rebuild of parts, assemblies, subassemblies and end items including the manufacture of parts, modifications, testing, and reclamation as required.
FAILURE	Any item that requires maintenance to restore to a satisfactory operating condition, including repair/replacement of attaching parts. Normal service is not included. MDC failure count is obtained from AFTO Form 349 subject to the following criteria:

Units of work having the following MDC
How Malfunction codes were omitted:

- 793 - No Defect - TCTO Kits Received by
Base Supply
- 796 - No Defect - Removed for Reliability
Assessment
- 797 - No Defect - Technical Order
Previously Complied With
- 798 - No Defect - Technical Order Not
Applicable - Equipment to be Replace,
Modified or Not Installed
- 799 - No Defect
- 800 - No Defect - Component Removed and/or
Reinstalled to Facilitate Other
Maintenance
- 801 - No Defect - Technical Order Compliance
- 802 - No Defect - Partial Technical Order
Compliance
- 803 - No Defect - Removed For Time Change
- 804 - No Defect - Removed for Schedule
Maintenance
- 805 - No Defect - Not Otherwise Coded
- 811 - No Defect - Class 1 Modification
- 812 - No Defect - Associated Equipment
Malfunction
- 911 - Engine TCTO Correction Code
- 948 - No Defect - Operator Error

If the data were taken from an On-Equipment
Form, failures were defined by the following
"Action Taken" Codes:

- F - Repair
- G - Repair and/or Replacement of Attaching
Parts

K - Calibrated - Adjustment Required

L - Adjust

V - Clean

Z - Corrosion Treatment

If the data were taken from a shop form,
failures were defined by the following Action
Taken Codes:

1 - Bench Checked - NRTS (Not Repairable
This Station) - Repair Not Authorized

2 - Bench Checked - NRTS - Lack of Equip-
ment, Tools, or Facilities

3 - Bench Checked - NRTS - Lack of
Technical Skills

4 - Bench Checked - NRTS - Lack of Parts

5 - Bench Checked - NRTS - Shop Backlog

6 - Bench Checked - NRTS - Lack of
Technical Data

7 - Bench Checked - NRTS - Excess to Base
Requirements

8 - Bench Checked - Returned to Depot
Facilities by Direction of System
Manager or Item Manager

9 - Bench Checked - Condemned

A - Bench Checked and Repaired

D - Bench Checked - Transferred to Another
Base

F - Repair

G - Repair and/or Replacement of Attaching
Parts

K - Calibrated - Adjustment Required

L - Adjust

V - Clean

Z - Corrosion Treatment

FAILURE MODE	Key word(s) describing the equipment failure within the limits of the MDC "How Malfunction" listing in the Work Unit Code book.
FLIGHT ABORT	The premature termination of a flight because of mission essential equipment failure - MDC When Discovered Code "C".
FLIGHT TIME	Hours of operation recorded from brake release to engine shutdown.
FLYAWAY COST	Flyaway cost for aircraft includes the cost of the following airborne and installed equipment: airframe, propulsion equipment, electronics, armament, and other installed government furnished equipment.
FULL STOP LANDING	The action of bringing an airplane down after having descended to a point fifty feet above the surface, of making contact with the surface and of completing the landing roll.
GENERAL SUPPORT MATERIAL	Material purchased from the General Support Division which is decentrally managed expense type items including aircraft, electronic and communications repair parts, and base consumables.
GROUND ABORT	The cancellation or postponement of an aircraft scheduled for flight because of sub-standard performance of mission essential equipment - MDC When Discovered Code "A".
GROUND HANDLING AND SERVICE	Includes manhours expended positioning, parking, moving, fueling and other servicing functions on an aircraft and coded under the 01XXX work unit code series.
HUMAN RESOURCES	For purposes of this study, includes: people required to perform support functions broken out along various dimensions such as AFSC, experience level, training, and rank.
INTERMEDIATE MAINTENANCE	Maintenance expended on removed engines or components in the shop during repair or preventive maintenance.
LANDINGS PER FLIGHT HOUR	$\frac{\text{Total Landings including "Touch and Go"}}{\text{Total Flight Time}}$

LOGISTICS

For purposes of this study includes: The science of planning and carrying out the acquisition, distribution, maintenance, and dispersal of weapon systems and support equipment; the movement and support of military forces, and the acquisition or furnishing of services.

MAIN OPERATING BASE (MOB)

An MOB is an active USAF air base having assigned theater forces or rotational tactical forces or a major active flying support mission in peacetime. It is capable of supporting such forces in sustained war-time operations, depending upon the assigned mission. It has field maintenance, base supply, munitions, security, billeting and messing, transportation, communications, nav aids, weather, and operational support facilities. It is capable, with prepositioned WRM, of receiving, servicing, and initially launching augmentation forces deployed with direct mission support personnel and it can sustain such operations under emergency conditions for 30 days.

MAINTENANCE MANHOURS PER FLIGHT HOUR

The total direct maintenance manhours expended per aircraft flying hour. This rate is calculated for total flight line tasks, total shop tasks, and total flight line and shop tasks.

MAINTENANCE MANNING CAPABILITY

The maximum number of flying hours per aircraft per unit of time that the maintenance function of an organization is manned to support. In certain units that are manned for surge contingencies, maintenance manning capability may exceed the maintenance manning requirements needed to support a peacetime flying hour rate.

MAINTENANCE ON SERVICEABLE ITEMS

On-equipment and shop maintenance which is performed to gain access to other components is coded with "How Malfunctioned" Code 800 (No Defect - Component Removed/Reinstalled to Facilitate Other Maintenance). If a component is removed, bench checked and found serviceable, the shop maintenance action is coded with "Action Taken" Code B (Bench Checked - Serviceable). The same component may be reinstalled, or a new component may have been installed in its place when the original was removed.

MAINTENANCE

See Base Maintenance

MAINTENANCE TASKS

Manhours spent on each unit of work produced and the number of units of work performed in 1000 flying hours were calculated for the following tasks:

Flight Line Removals

Flight Line Remove and Replace

Flight Line Remove and Reinstall

Flight Line Attaching Parts

Flight Line Checks OK

Flight Line Other

Flight Line Total

Shop Bench Check

Shop Bench Check and Repair

Shop Bench Check - NRTS

Shop Checks OK

Shop Repair

Shop Attaching Parts

Shop Other

Shop Total

MATERIAL RESOURCES

For purpose of this study, includes: spares, GSE, training equipment, and fuel.

MISSION-DESIGN-SERIES (MDS)

An alpha-numeric code used to identify a specific type of aircraft. The mission symbol, "a letter", is used to denote the primary function or capability of an aircraft, for example, "C" in C-130, for cargo. The design number denotes different aircraft within the same function, for example, "130" in C-130 as opposed to "135" in C-135. The series symbol, a letter, is used to denote that significant differences exist between related aircraft because of follow-on production or major modification, for example, "E" in C-130E as opposed to "D" in C-130D. In certain cases

another letter can precede the MDS designation. This letter is used to indicate that the particular aircraft no longer has the same characteristics as others of the same MDS, for example, "A" in AC-130E as opposed to C-130E. This application is termed "Modified Mission Symbol".

MISSION LENGTH

See Sortie Length.

NOT OPERATIONAL READY
MAINTENANCE (NORM)

The aerospace vehicle is not capable of performing all of its assigned mission(s) due to required maintenance actions.

NOT OPERATIONAL READY
MAINTENANCE (NORM) (F)
(FLYABLE)

Same as above.

NOT OPERATIONAL READY
MAINTENANCE (NORM) (G)
(GROUNDED)

Same as above.

NOT OPERATIONAL READY
MAINTENANCE (NORM) (T)
(TCTO)

Same as above.

NOT OPERATIONAL READY
SUPPLY (NORS)

The aerospace vehicle is not capable of performing all of its assigned mission(s) due to parts required from supply.

NOT OPERATIONAL READY
SUPPLY (NORS) (F)
(FLYABLE)

Same as above.

NOT OPERATIONAL READY
SUPPLY (NORS) (G)
(GROUNDED)

Same as above.

NRTS

Not Repairable This Station. Items that are shipped from the base for repair or overhaul and meet one of the following criteria:

- 1 - Bench Check Maintenance/NRTS - Repair Not Authorized
- 2 - Bench Check Maintenance/NRTS - Lack of Equipment, Tools, or Facilities
- 3 - Bench Check Maintenance/NRTS - Lack of Technical Skills
- 4 - Bench Check Maintenance/NRTS - Lack of Parts

	5 - Bench Check Maintenance/NRTS - Shop Backlog
	6 - Bench Check Maintenance/NRTS - Lack of Technical Data
	7 - Bench Check Maintenance/NRTS - Excess to Base Requirements
	8 - Bench Check Maintenance/NRTS - Directed Return to Depot Facility
OFF-EQUIPMENT MAINTENANCE	See Intermediate Maintenance
ON-EQUIPMENT	See Organizational Maintenance
OR - OPERATIONALLY READY	The aerospace vehicle is capable of performing all of its assigned missions. (Preflight, post flight, thru flight and home station check inspections or functional check flights are considered as OR conditions.)
ORGANIZATIONAL MAINTENANCE	Maintenance in which the airplane is the end item.
PERCENT FAILURE MODE	Percent of total failures reported against specific MDC "How Malfunction" key words.
PHASE OF OPERATION	Phases of flight such as: Takeoff, inflight, landing, taxiing, etc.
POSSESSED AIRCRAFT	The actual ownership of and responsibility for an aerospace vehicle.
QPA (QUANTITY PER AIRCRAFT)	The quantity per aircraft indicates the total number of a particular component installed on one aircraft.
REMOVALS	Maintenance action to remove an item from the aircraft. MDC Action Taken Codes "P" and "R".
REMOVE AND REINSTALL	Maintenance action to remove an item and install the same item - most often to gain access to other areas. MDC Action Taken Code "S".
REMOVE AND REPLACE	Maintenance action to remove an item from the aircraft and install a like item in its place. MDC Action Taken Code "R".

REPAIR

Repair action performed separately from Bench Checks. Includes total repair hours of cleaning, disassembly, inspection, adjustment, reassembly and lubrication.

SCHEDULED MAINTENANCE

Includes maintenance manhours expended on the following:

- a. Look Phase of all inspections - the accomplishment of requirements listed on the inspection work card deck for the particular inspection, i.e., preflight (PR), basic postflight (BPO), hourly postflight (HPO), periodic or phase (PE), all of which are listed under the 03XXX work unit codes.
- b. Fix Phase of all inspections - the correction of discrepancies discovered during the "look" phase of an inspection.
- c. Special Inspections - these inspections are listed under the 04XXX work unit code series and include numerous items listed for special inspections such as test flights, hard landings, hot starts, etc.
- d. Scheduled Shop Support - the performance of planned repetitive maintenance tasks in the shops such as engine tear-down and/or buildup; wheel and tire buildup or teardown; parachute packing; fabrication, etc., and are coded under the 09XXX work unit code series.
- e. TCTO - the compliance with Time Compliance Technical Orders (except Immediate Action TCTO's) on aircraft and engine systems and/or components.
- f. Aircraft Washing and Cleaning - aircraft washing, cleaning, vacuuming, polishing, and the removal of ice and frost from aircraft. It does not include the treatment of corroded parts which should be charged to the applicable work unit code of the affected part. Work unit code series 02XXX apply to washing and cleaning.

SERVICEABLE ITEM MAINTENANCE	See Maintenance on Serviceable Items.
SORTIE LENGTH	A sortie is measured from the start of the takeoff run until one of the following occur: <ol style="list-style-type: none"> 1. Aircraft is on the ground for five minutes. 2. Engines are shut down. 3. Crews are changed.
SYSTEM	A functionally related group of components and parts; defined in military coding systems by a two digit number, e.g.; 45 = hydraulics, 13 = landing gear and 74 = fire control.
SYSTEM MAINTENANCE	Maintenance expended on the aircraft in the repair or preventative maintenance of systems, subsystems and components.
SYSTEMS SUPPORT MATERIAL	Material purchased from the Systems Support Division for the maintenance of aircraft and missiles which is centrally procured expense type items such as nonreparable spares and repair parts, including peculiar spares.
TACTICAL UNIT	A unit designated for combat operations or a unit which directly supports combat operations.
TASKS PER 1000 FLIGHT HOURS	The rate obtained by dividing the total occurrences of a particular task by the flight hours expressed in thousands.
TCTO - TIME COMPLIANCE TECHNICAL ORDER	An Air Force publication that gives specific technical directions and information with respect to the modification, inspection, storage, operation or maintenance of equipment, requiring compliance within a specified time period.
TOTAL MAINTENANCE	Total maintenance consists of all actions taken to retain material in a serviceable condition or to restore it to serviceability. It includes inspection, testing, servicing, classification as to serviceability, repair rebuilding, and reclamation.
TOUCH AND GO LANDING	The action of bringing an airplane down after having descended to a point fifty feet above the surface, or making contact with the surface, but continuing with another takeoff without coming to a stop.

TROUBLESHOOTING	Maintenance time expended in locating a suspected discrepancy. MDC Action Taken code "Y". Normally of sufficient length as to be reported separately from the repair action.
TROUBLESHOOTING MANHOURS	Maintenance manhours expended on the airplane in fault isolation. Usually those cases where troubleshooting time is expended separately from the repair.
TYPE OF ACCIDENT	Different types of aircraft accidents, such as: loss of directional control on the ground; spin or stall; fire or explosion; abandoned aircraft; etc.
UNIT EQUIPMENT (UE)	The number of aircraft which are authorized for operational (flying) missions. The UE authorization forms the basis for authorization of operating resources (manpower, support equipment, and flying hour funds).
UTILIZATION	Total Flight Time (Months Flown) X (No. of Aircraft Operating)
UTILIZATION RATE (UR)	The average number of flying hours per aircraft per specified unit of time. It is estimated as the quotient of programmed squadron flying hours divided by squadron UE.
WHEN DISCOVERED	Identifies when the need for maintenance was detected. BF - Before Flight, When Discovered codes A, B, G, N IF - In Flight, When Discovered codes C, D, P BTF - Between Flights, When Discovered codes E, F INS - Inspection, all other When Discovered codes
WORK UNIT CODE	A five digit number designating a system, subsystem, component or part on an aircraft. Total work unit codes per aircraft range from 2,000 to 10,000 depending on complexity.

GLOSSARY OF ABBREVIATIONS AND ACRONYMS

AAI	AUTHORIZED ACTIVE INVENTORY
ABCC	AIRBORNE COMMAND AND CONTROL
AC	ALTERNATING CURRENT
A/C	AIRCRAFT
ACFT	AIRCRAFT
ADI	ATTITUDE DIRECTIONAL INDICATOR
ADM	AIR (A) LAUNCH ENVIRONMENT, DECOY (D) MISSION, GUIDED MISSILE (M) VEHICLE TYPE
AF	AIR FORCE
AFAFC	AIR FORCE ACCOUNTING AND FINANCE CENTER
AFB	AIR FORCE BASE
AFHRL	AIR FORCE HUMAN RESOURCES LABORATORY
AFISC	AIR FORCE INSPECTION AND SAFETY CENTER
AFLC	AIR FORCE LOGISTICS COMMAND
AFM	AIR FORCE MANUAL
AFR	AIR FORCE REGULATION
AFS	AIR FORCE SPECIALITY
AFSC	AIR FORCE SPECIALITY CODE
AFSC	AIR FORCE SYSTEMS COMMAND
AGE	AEROSPACE GROUND EQUIPMENT
AGM	AIR (A) LAUNCH ENVIRONMENT, SURFACE ATTACK (G) MISSION, GUIDED MISSILE (M) VEHICLE TYPE
ALC	AIR LOGISTICS CENTER
ALTER	ALTERATION
AMS	AVIONICS MAINTENANCE SQUADRON
AMST	ADVANCED MEDIUM STOL TRANSPORT
AN	ARMY/NAVY
ANAL	ANALYSIS
APLN	AIRPLANE
APPR	APPROPRIATION
AQM	AIR (A) LAUNCH ENVIRONMENT, DRONE (Q) MISSION, GUIDED MISSILE (M) VEHICLE TYPE
ARA	AIRBORNE RADAR APPROACH
ASD	AERONAUTICAL SYSTEMS DIVISION
ASIP	AIRCRAFT STRUCTURAL INTEGRITY PROGRAM
ASW	ANTI SUBMARINE WARFARE
ATC	AIR TRAINING COMMAND
AVG	AVERAGE
ATM	AIR TURBINE MOTOR
AVGAS	AVIATION GAS
BAC(IL&S)	BOEING AEROSPACE COMPANY, LOGISTICS SUPPORT AND SERVICES
BF	BEFORE FLIGHT
BIAS	BATTLEFIELD ILLUMINATION AIRBORNE SYSTEM
BL	BASE LEVEL
BLIS	BASE LEVEL INQUIRY SYSTEM
BOS	BASE OPERATING SUPPORT
BPO	BASIC POST FLIGHT
BQM	MULTIPLE (B) LAUNCH ENVIRONMENT, DRONE (Q) MISSION, GUIDED MISSILE (M) VEHICLE TYPE

GLOSSARY OF ABBREVIATIONS AND ACRONYMS (Cont.)

CACE	COST ANALYSIS COST ESTIMATING
CAMMIS	COMMAND AIRCRAFT MAINTENANCE MANPOWER INFORMATION SYSTEM
CEM	COMMUNICATION ELECTRONIC METEOROLOGICAL
CGM	COFFIN (C) LAUNCH ENVIRONMENT, SURFACE ATTACK (G) MISSION, GUIDED MISSILE (M) VEHICLE TYPE
CHG	CHANGE
CIM	COFFIN (C) LAUNCH ENVIRONMENT, INTERCEPT-AERIAL (I) MISSION, GUIDED MISSILE (M) VEHICLE TYPE
CIV	CIVILIAN
CNT	CONTROL
COCESS	CONTRACTOR OPERATED CIVIL ENGINEER SUPPLY STORE
COMM	COMMUNICATIONS
COND	CONDITIONING
CONF	CONFIGURATION
CONUS	CONTINENTAL UNITED STATES
COPARS	CONTRACTOR OPERATED PARTS STORE
DC	DIRECT CURRENT
DCM	DEPUTY COMMANDER FOR MAINTENANCE
DEPT	DEPARTMENT
DEV	DEVELOPMENT
DI	DATA ITEM
DL	DEPOT LEVEL
DPT	DEPOT
ECM	ELECTRONIC COUNTERMEASURES
ELECT	ELECTRONICS
ENG	ENGINE
ENL	ENLISTED
EQUIP	EQUIPMENT
ETA	EXCEPTION TIME ACCOUNTING
EXT	EXTERNAL
FH	FLYING HOUR
FLT	FLIGHT
FMS	FIELD MAINTENANCE SQUADRON
FTD	FIELD TRAINING DETACHMENT
FY	FISCAL YEAR
GAL	GALLON
GEN	GENERAL
GFM	GOVERNMENT FURNISHED MATERIAL
GND	GROUND
GPM	GALLONS PER MINUTE
GRND	GROUND
GRDS	GRADUATES
GSE	GROUND SUPPORT EQUIPMENT

GLOSSARY OF ABBREVIATIONS AND ACRONYMS (Cont.)

HF	HIGH FREQUENCY
HGM	SILO STORED (H) LAUNCH ENVIRONMENT, SURFACE ATTACK (G) MISSION, GUIDED MISSILE (H) VEHICLE TYPE
HPO	HOURLY POST FLIGHT
HQ	HEADQUARTERS
HRS	HOURS
HSI	HORIZONTAL SITUATION INDICATOR
HWSA	HISTORICAL WEAPON SYSTEM ANALYSIS
HYD	HYDRAULIC
I&L	INSTALLATIONS AND LOGISTICS
I&S	INTERCHANGEABILITY AND SUBSTITUTION
INC	INCORPORATED
IF	IN FLIGHT
IIF	IDENTIFICATION, FRIEND OR FOE
INCL	INCLUDE
IND	INDICATED
INS	INSPECTION
INST	INSTRUMENTS
INSP	INSPECTION
IRAN	INSPECT AND REPAIR AS NECESSARY
IROS	INCREASED RELIABILITY OF OPERATIONAL SYSTEMS
INT	INTERMEDIATE
INVEST	INVESTMENT
LBS	POUNDS
LCC	LIFE CYCLE COST
LFT	LEFT
LGM	SILO LAUNCH ENVIRONMENT, SURFACE ATTACK (G) MISSION GUIDED MISSILE (M) VEHICLE TYPE
LLTV	LOW LEVEL LIGHT TELEVISION
LORAN	LONG RANGE NAVIGATION
M	MILLION
MAC	MILITARY AIRLIFT COMMAND
MAINT	MAINTENANCE
MAP	MILITARY ASSISTANCE PROGRAM
MAT	MATERIEL
MAW	MILITARY AIRLIFT WING
MAX	MAXIMUM
MBO	MAIN OPERATING BASE
MCS	MAINTENANCE COST SYSTEM
MDC	MAINTENANCE DATA COLLECTION
MDCS	MAINTENANCE DATA COLLECTION SYSTEM
MDS	MODEL/DESIGN/SERIES
MIS	MANAGEMENT INFORMATION SYSTEM
MISC	MISCELLANEOUS
MMH	MAINTENANCE MANHOURS
M/MHR	MAINTENANCE PER MANHOURS
MMICS	MAINTENANCE MANAGEMENT INFORMATION CONTROL SYSTEM
MO	MONTH
MODS	MODIFICATIONS

GLOSSARY OF ABBREVIATIONS AND ACRONYMS (Cont.)

MPD	MILITARY PERSONNEL CENTER
MT	MAINTENANCE
MTT	MOBILE TRAINING TEAM
NAV	NAVIGATIONS
NO.	NUMBER
NOA	NON OPERATIONAL ACTIVE
NOM	NOMENCLATURE
NON XD	NON EXPENDABLE DEPOT
NORM	NOT OPERATIONAL READY MAINTENANCE
NORS	NOT OPERATIONAL READY SUPPLY
NRTS	NOT REPAIRABLE THIS STATION
NSC	NATIONAL STOCK CLASS
NSN	NATIONAL STOCK NUMBER
O&S	OPERATING AND SUPPORT
OASD	OFFICE ASSISTANT SECRETARY OF DEFENSE
OFF	OFFICERS
OMS	ORGANIZATIONAL MAINTENANCE SQUADRON
OPS	OPERATIONS
OR	OPERATIONAL READY
ORG	ORGANIZATIONAL
OSCR	OPERATING AND SUPPORT COST REPORT
OT	OTHER
P&S	PLANS AND SCHEDULES
PDM	PROGRAMMED DEPOT MAINTENANCE
PEC	PROGRAM ELEMENT CODE
PERS	PERSONNEL
POL	PETROLEUM, OILS AND LUBRICANTS
POSS	POSSESSED
PROC	PROCUREMENT
PROD	PRODUCTION
PROP	PROPELLER
PRESS	PRESSURE
PRESS	PRESSURIZATION
PSI	POUNDS SQUARE INCH
PWR	POWER
QC	QUALITY CONTROL
QEC	QUICK ENGINE CHANGE
QPA	QUANTITY PER AIRCRAFT
QTY	QUANTITY
RAF	ROYAL AIR FORCE
R&D	RESEARCH AND DEVELOPMENT
R&M	RELIABILITY AND MAINTAINABILITY
RCS	REPORT CONTROL SYMBOL
REC	RECEIVER
REF	REFERENCE
REL	RELIABILITY
REPL	REPLACEMENT
REPLEN	REPLENISHMENT
RPM	REVOLUTIONS PER MINUTE
RT	RECEIVER TRANSMITTER

GLOSSARY OF ABBREVIATIONS AND ACRONYMS (Cont.)

SBSS	STANDARD BASE LEVEL SUPPLY SYSTEM
SC	SCHEDULED
SE	SUPPORT EQUIPMENT
SEC	SECTION
SECT	SECTION
SERV	SERVICING
SKE	STATION KEEPING EQUIPMENT
SPO	SYSTEMS PROGRAM OFFICE
SPT	SUPPORT
STOL	SHORT TAKEOFF AND LANDING
SYS	SYSTEM
SV	SERVICING
SUBSYS	SUBSYSTEM
TAC	TACTICAL AIR COMMAND
TAW	TACTICAL AIRLIFT WING
T&E	TEST AND EVALUATION
TCI	TIME COMPLIANCE ITEM
TCTO	TIME COMPLIANCE TECHNICAL ORDER
TDY	TEMPORARY DUTY
TECH	TECHNICAL
TO'S	TECHNICAL ORDERS
TOT	TOTAL
TR	TECHNICAL REPORT
TRANS	TRANSCIVER
TRNG	TRAINING
UDL	UNIT DETAIL LISTING
UE	UNIT OF EQUIPMENT
UHF	ULTRA HIGH FREQUENCY
UMD	UNIT MANNING DOCUMENT
UN	UNSCHEDULED
USAF	UNITED STATES AIR FORCE
UTE	UTILIZATION
UTIL	UTILIZATION
VHF	VERY HIGH FREQUENCY
VTOL	VERTICAL TAKEOFF AND LANDING
WAC	WORK ACCOMPLISHMENT CODE
WBS	WORK BREAKDOWN STRUCTURE
W/O	WITHOUT
WPAFB	WRIGHT PATTERSON AIR FORCE BASE
WRALC	WARNER ROBINS AIR LOGISTICS CENTER
WRM	WAR READINESS MATERIAL
W/S	WEAPON SYSTEM
WT	WEIGHT
WUC	WORK UNIT CODE
YR	YEAR

APPENDIX A

DATA SOURCES AND AGENCIES

TABLE A-1 DATA SOURCES AND AGENCIES

AGENCY	LOCATION	OFFICE SYMBOL(S)/FUNCTION	TYPES OF LITERATURE/ DATA FILES	QUANTITY OBTAINED		
				PUBLISHED INFORMATION	RECORDS	YEARS
Acquisition Logistics Division	Wright-Patterson AFB, OH	RAVA - Studies and Analysis Branch	- -	- -	- -	- -
Aeronautical Systems Division	Wright-Patterson AFB, OH	HO - History Office ACC - Cost Analysis ACL - Joint AFMC/AFMC LCC Working Group	Documents Documents Backfill Report LCC Studies	7 - -	- - - - - -	- - - - - -
Aerospace Daily Ziff Davis Publishing Co.	Washington, D.C.	- -	Aerospace Daily Articles	130 articles	- -	- -
Air Force Logistics Command	Wright-Patterson AFB, OH	PRPL - Program Requirements ACVMP - Inventory, Status and Performance Branch HO - History Office ACRC - Cost Analysis ACVRC - Depot Usage LOLWF - Data Collection Requirements LOLWA - Data Requirements LOMP - Material Support Division HO - Historical Office ACCH - Cost Analysis Division	1-IAF-A1-110-12 D056E G033B B-4 C-4 Index, Documents 1-IAF-A1-110-12 D041 H036B K051 PDH Brochure Articles Authorization For AFH 66-1, 65-110 and 400-1	84 monthly reports - - - - - - - - 95 monthly reports - - - - - - - - 5 - -	1700 8,985,175 1465 9318 72000 1900 - - - - - - - - - - - -	1970-1976 1971-1976 1971 & 1973-1976 - - - - 1962-1959 - - - - - - - - - -
Air Force Systems Command	Andrews AFB, MD	SEFB - C-130 Safety Project Office SER - Accident/Incident Reporting and Data Collection SEDA - Education Office	Articles/Incidents Listings Safety Magazine Articles	4 2 75	- - - - - -	1962-1976 - - - -

TABLE A-1 DATA SOURCES AND AGENCIES (CONT'D)

AGENCY	LOCATION	OFFICE SYMBOL(S)/FUNCTION	TYPES OF LITERATURE/ DATA FILES	QUANTITY OBTAINED		
				PUBLISHED INFORMATION	RECORDS	YEARS
Air Training Command	Sheppard AFB, TX	TFTO - 3785 Field Training Group	UOL GTS POI TOT	5 Listings 29 Reports 29 Documents	- -	1972-1976 Current Current
		LGMET - Configuration Management	Config. Records	29 Listings	- -	1974 Current
		TTHE - Training Equip. and Design	Training Course Data File	- -	- -	- -
		TTP - Training Programs Management	- -	- -	- -	- -
		TTA - Systems/Resident Training	- -	- -	- -	- -
Air University - Air Command and Staff College	Maxwell AFB, AL	TTAB - Technical/Training Resident	- -	- -	- -	- -
		ACHEB - Finance Office	AFM-177-388 Data	Index (100 + articles)	- -	1956-1976
Aviation Week and Space Technology	New York, NY	Air University Library (Index to Military Periodicals)	Articles from 69 Different Military and Aeronautical Periodicals	1 Index 54 articles	- -	1960-1976
		Aviation Week and Space Technology Reference Library	Index of Published Articles	- -	- -	- -
		- -	Working Papers of the U.S. Congress	- -	- -	- -
		- -	Defense Market-Ing Information	6 Listings	- -	- -
		DDC (Defense Documentation Center) Referral Data Bank	Data Search Index/Documents	2 Indexes 76 Documents	- -	1962-1976
Frost & Sullivan Inc.	New York, NY	- -	File Indexes of Citations and Abstracts From Engineering Journals and Selected Government Documents	Index	- -	- -
		- -	Defense Contracts Cost Information	1 Listing	- -	1960-1975

TABLE A-1 DATA SOURCES AND AGENCIES (CONT'D)

AGENCY	LOCATION	OFFICE SYMBOL(S)/FUNCTION	TYPES OF LITERATURE/ DATA FILLS	QUANTITY OBTAINED		
				PUBLISHED INFORMATION	RECORDS	YEARS
Headquarters USAF	Washington, D.C.	ACHCA - Cost Analysis Division	OSCR C-130E Report	1 Report	- -	FY 1975
H. M. Wilson Company	Bronx, NY	Applied Science and Technology Periodicals	Index of Published Periodicals	1 Index	- -	- -
Logistics Management Institute (LMI)	Washington, D.C.	Research Agency	LMI Studies Index and Documents	1 Index	- -	- -
Military Airlift Command	Scott AFB, IL	ACHF - Economical Analysis and Cost ACIUD - Alternative Costing Branch LGXA - Logistics Analysis Division	Training Costs Documents Training Costs Monthly Maint. Digest, MACR S7-2, 65-5, Alerts	4 Reports	- -	- -
Military Personnel Center	Randolph AFB, TX	XPWRT - Manpower Division DPHQX - Division Executive - Requirements DPHYP - Research Division DPHMQS - Requirements Analyst	Manpower Standards, UDA Field Training Manpower Plans Survey Research Requirement Manpower Profile Training Record	- - - - - - - -	- - - - - - - -	- - - - - - - -
National Aeronautics and Space Administration (NASA)	Washington, D.C.	NASA/Scientific and Technical Information Office NASA/Directory of Aerospace Safety Specialized Information Sources	Data Search Index and Documents Data Search Index and Documents	1 Index 1 Index	- - - -	- - - -
National Technical Information Service	Springfield, VA		Government Research Contract Information	1 Index 1 Document	- -	- -
Occupational Measurements Branch (AFIHL)	Lackland AFB, TX	QHY - Occupational Survey Branch QHVA - Occupational Analyst	Survey Reports Survey Task	12 Reports 9 Inventories	- - - -	Current Current
Computational Sciences Div. (AFIHL)	Lackland AFB, TX	CSD/AFIHL-SH	Officer Educational Back-ground Summaries			

TABLE A-1 DATA SOURCES AND AGENCIES (CONT'D)

AGENCY	LOCATION	OFFICE SYMBOL(S)/FUNCTION	TYPES OF LITERATURE/ DATA FILES	QUANTITY OBTAINED		
				PUBLISHED INFORMATION	RECORDS	YEARS
Oklahoma Air Logistics Center	Tinker AFB, OK	MEAM - Material Analysis Branch MIRA - Engineering & Analysis Branch MHII - Investment & Replacement Branch	D041 Fetch D041.. F91A D041	- - - - - -	1065 - - - -	1975-1976 - - - -
Rand Corporation	Santa Monica, CA	- -	Technical Reports	4 Reports	- -	- -
Rome Air Development Center	Griffiss AFB, NY	RADC/Reliability Analysis Center	Reliability Studies/Analysis Information	- -	- -	- -
Sacramento Air Logistics Center	McClellan AFB, CA	MIII - Investment & Replacement Branch ACDCN - Logistics Systems Section - ACDCG - Commodity Stock Control and Distribution Section	D041 K051 D049	- - 18 Reports - -	- - - - - -	- - 1973-1976 - -
San Antonio Air Logistics Center	Kelly AFB, TX	MIEAI - Quality Improvement Section MHIR - Requirements Branch MIECD - Operational Flight Program Section HIO - History Office	G095 D041 D062 G098 Engine Data	- - - - - - - - 1 Report	- - - - - - - - - -	- - - - - - - - - -
U.S. Army Logistics Management Center	Fort Lee, VA	DLSE (Defense Logistics Studies Information Center) Referral Data Bank	Data Search Index and Documents	1 Index 3 Reports	- - - -	- - - -
Warner-Robins Air Logistics Center	Warner-Robins AFB, GA	MIEAI - Maintenance Data Analysis MISIDA - Engineering & Reliability MISSS - Material Support Branch HIO - History Office MUSCA - Material Support - Data Processing and Control Section MAGB - C-130 System Program Office MAGPA - Depot Planning Maintenance	K261/K262 D047 (TCIO Data) HORS Data D20 Reports D041 D032 AGE TA's G037 G004	8 Reports - - - - 63 Reports - - - - 7 Reports 3 Reports 3 Reports	- - 11,500 435 - - - - - - - - - -	Oct. '73-Jul. '76 1962-1976 1968 Nov. '62-Jan. '68 - - - - - -

APPENDIX B

DATA REVIEW AND TERMINAL ENTRY

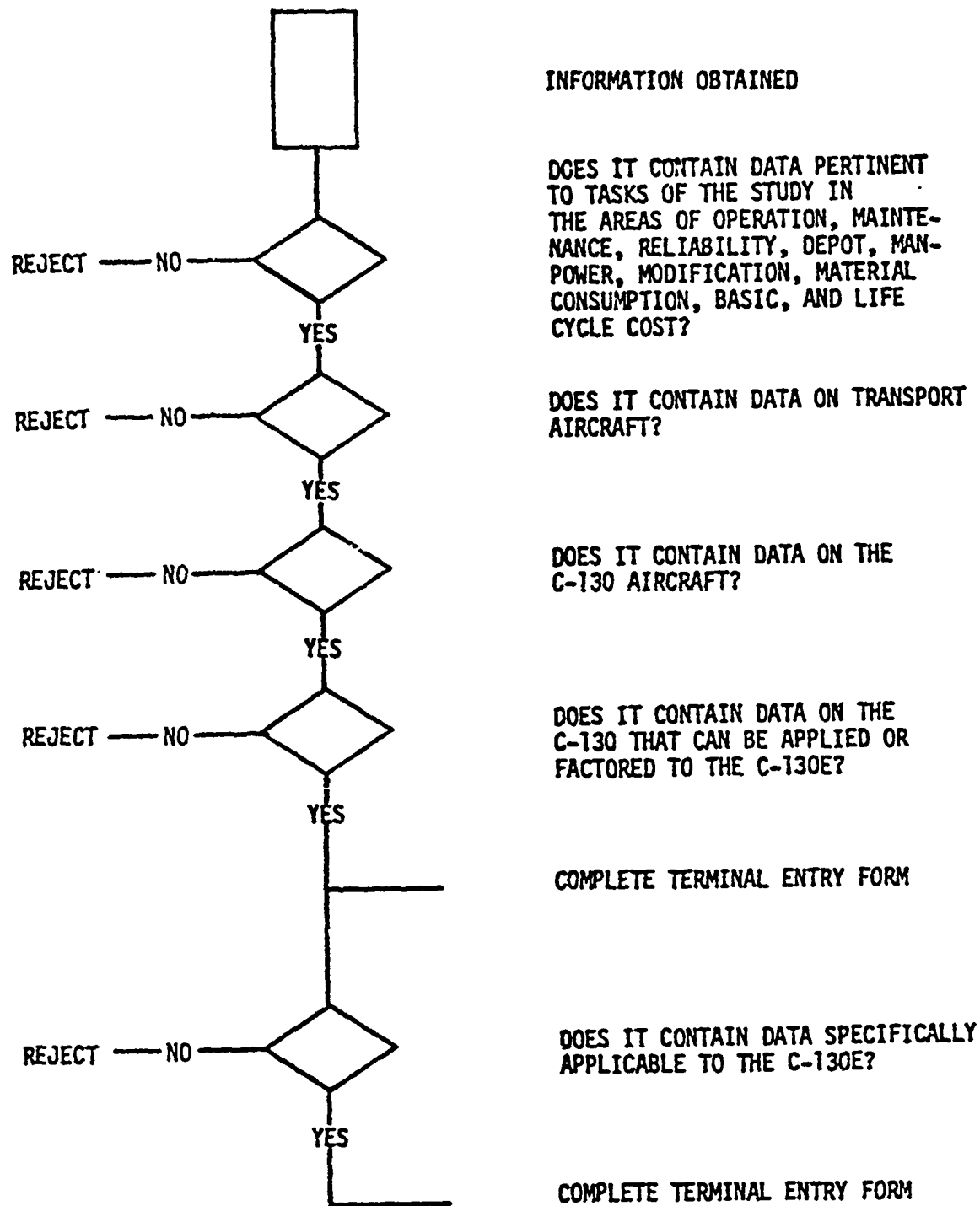


Figure B-1 DATA REVIEW "YES-NO" DECISION PROCESS FLOW

C-130E HISTORY CODE

*DOC SHIST _____ ①	Maintenance Data	SB FILED (Cont'd)
*ST (Title) 2	Organizational Level	
SPA (Personal Author) 3	Intermediate Level	
SDN (Document Number) 4	Depot Level	
*SP FORM ⑤	Vendor	*SQ QUALITY OF DATA ① Source Listing Screened Documents Useable Not Used SX Address 15 *SD Published 16
Forms	Manhours	
Tech. Reports	Task Analysis	
Documents	Modifications/TOTO	
Briefs/Papers	Reliability Data	
News Release	Failure Rates	
Magazine	Failure Distribution	
Computer Tape	Failure Modes	
List	Cost	
Card Deck	Safety Data	
Microfiche	Accidents/Incidents	
Brochure	Cost	
Tech. Data	Cost Data	
Book	Human Resources	
Logs	Material Resources	
Summary	Actuals	
	Estimates	
*SL (Source) 6	SP PHASE 8	
SS TYPE OF DATA 7	Conceptual	
Human Resources	Validation	
Manpower	Development	
Skill Level	Production	
Experience	Operation	
Training		
Costs	SNR (Number Reports) _____ 9	
Task Analysis	SAD (Order Date) _____ 10	
Material Resources	SBD (Received Date) _____ 11	
Spares	SCD (Received Date Pseudo) _____ 12	
Consumable Materials	SB FILED 13	
AGE	NWS Master File	
Training Equipment	EAC MECCA	
Test Equipment	BAC Kent Library	
POL	BCAC Renton Library	
Modifications/TOTO/	BAC Military Publications	
Kits		
Costs		
Operations Data		
Utilization		
Sorties		
Landings		
Inventory/(No.Aoft.)		
Turn Around		
Aborts		
Availability		
Dependability		

Figure 9-2 NWSA TERMINAL ENTRY FORM

APPENDIX C

DATA PROCESSING FLOWS AND
C-130E CHARACTERISTICS/SPECIFICATIONS



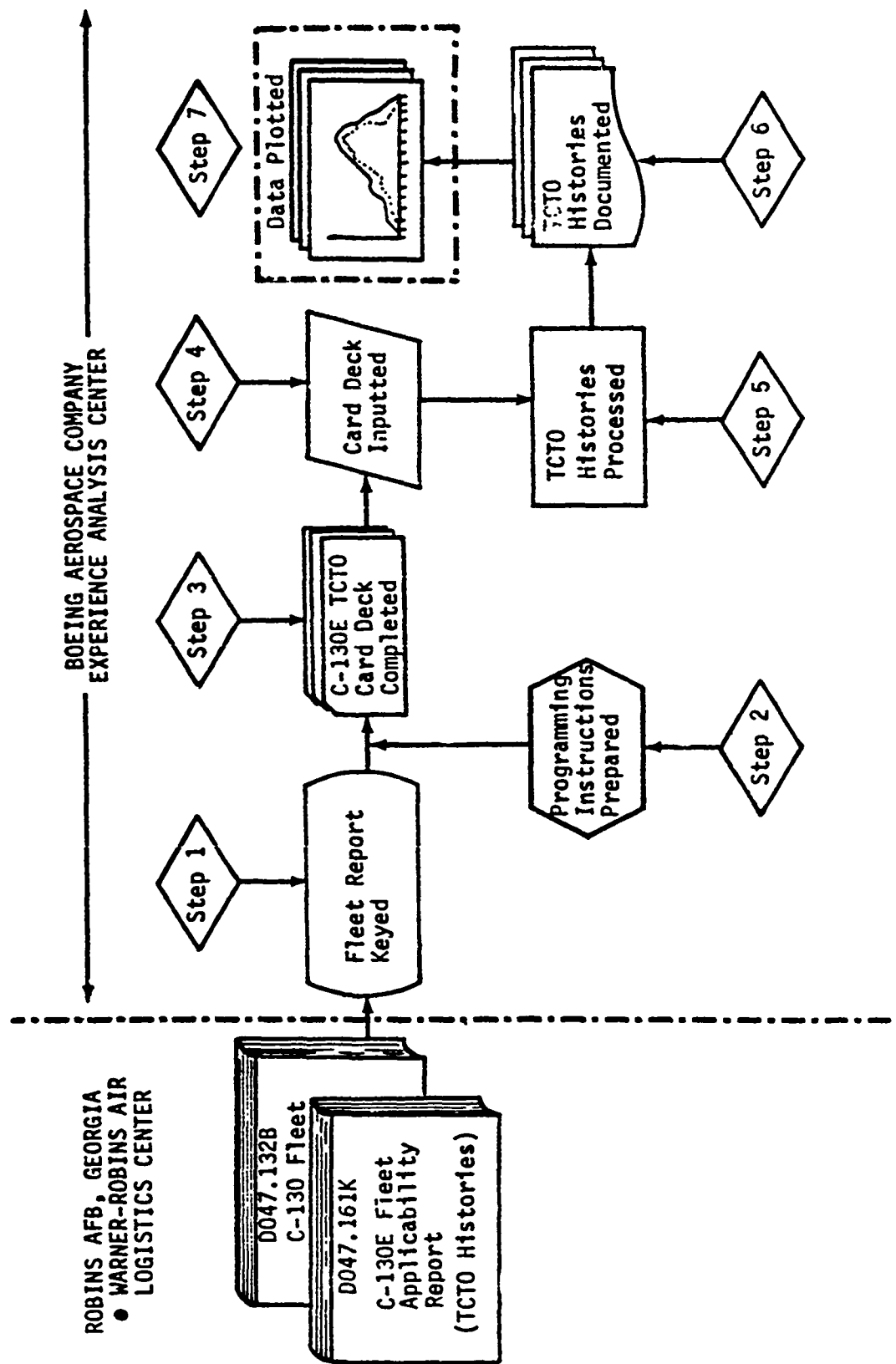


FIGURE C-2 MECHANIZED TCTO EVALUATION LOGIC FLOW

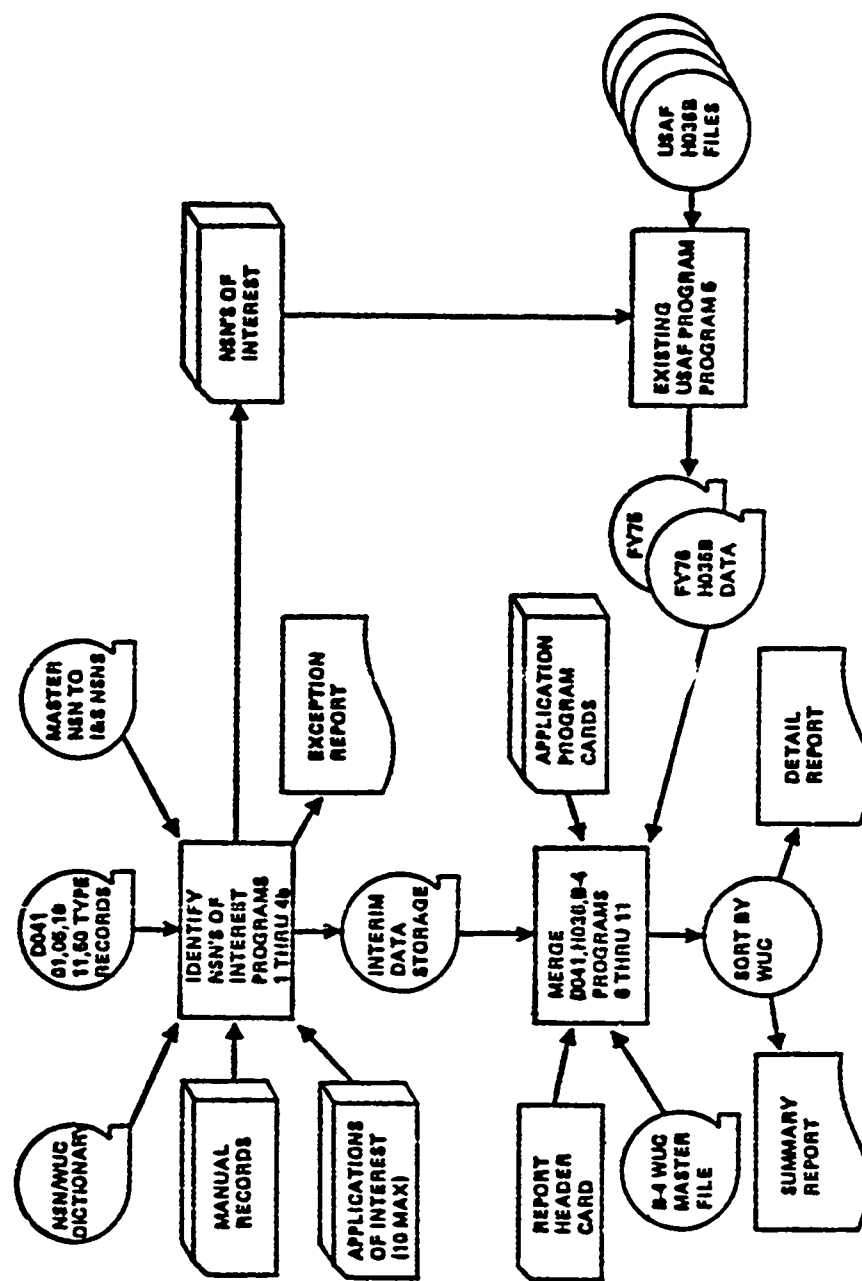


FIGURE C-3 C-130E DEPOT DATA COMPUTER PROCESSING FLOW

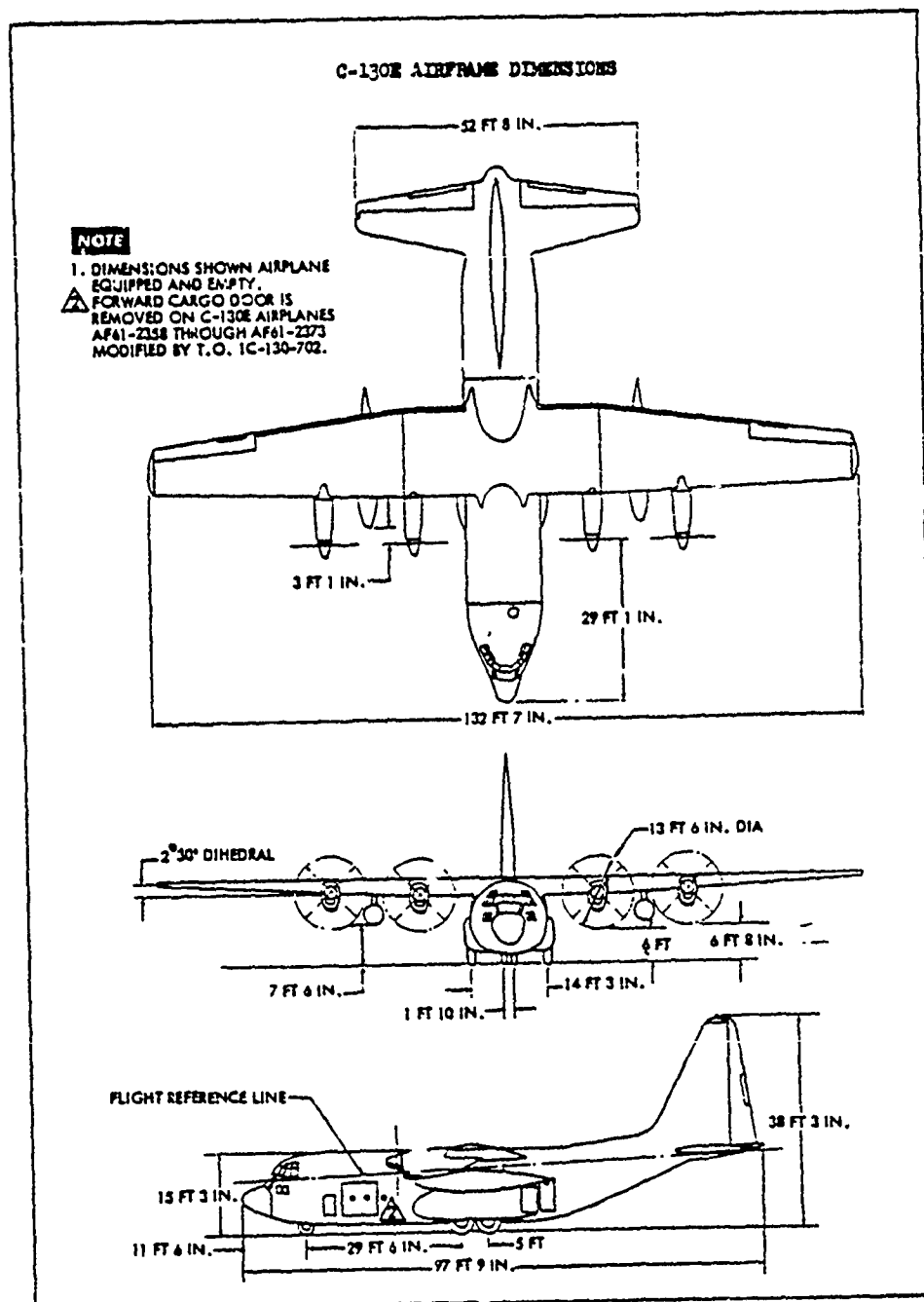


FIGURE C-4 C-130E THREE VIEW AIRFRAME DIMENSIONS

CHARACTERISTICS	
PERFORMANCE TAKE-OFF (Std. Day, SL, No Wind, No Bleed, 50% Flaps, Max. Pwr., Max. Effort) Maximum Weight Recommended 155,000 lb. Ground Roll With Jato 2,300 ft. No Jato 2,800 ft. MAXIMUM SPEED Approx. 324 Knots SERVICE CEILING (100 f.p.m.) 23,000 ft. RANGE 2-3,000 mi. LANDING (Prop. Reverse & Max. Wheel Brakes) Typical Weight 78,000 lb. Ground Roll/From 50' 1,280/2,270 Touchdown Speed 103 Knots Source Unclassified SAC Charts	SPECIFICATIONS WEIGHT Maximum Gross T.O. 155,000 lb. Empty 71,500 lb. Emergency War Planning (EWP) 175,000 lb. FUEL CAPACITY Max. Internal 7,000 gal. Max. External 2,800 gal. PROPULSION Four T-56-A-7 Allison Turboprops with Prop Reverse Maximum 4,300 SHP ea. ELECTRICAL POWER No. Generators 4/1 Rating (KVA) ea. 40/20 Drive Engine/ATM Emergency Battery HYDRAULIC POWER No. Pumps 4/1 Drive Engine/Elect Rating (gpm) ea. 30/Unit.
FLIGHT SURFACES AREAS (sq. ft.) Wings 1,745 Flaps 342 Vert. Fin 300 Horiz. Stab. 545 Rudder/Elevator 75/155 CHORD LENGTHS (inches) Wing Root 192 Wing Tip 100 Stab. Root 144 Stab. Tip 60 WING DATA Angle of Incidence 0°-3° Angle of Sweep 0° Angle of Dihedral 2.5° Aspect Ratio 10.09	AVIONICS AN/AIC- 13 INTERCOM, PUBLIC ADDRESS AN/AIC- 18A INTERCOM AN/APN- 22 RADAR ALTIMETER (SOME A/C) AN/APN- 59B RADAR, SEARCH AN/APN- 70/70B RADAR, LORAN NAV. AN/APN-133 RADAR ALTIMETER (OR SCR/718) AN/APN-147 RADAR, DOPPLER NAV. AN/APN-150 RADAR ALTIMETER (SOME A/C) AN/APN-159A STATIONKEEPER, INTRAPFORMATION AN/APN-171 POSITIONING SET (SOME A/C) AN/APN- 72 RADAR ALTIMETER (SOME A/C) AN/APN- 75 IFF SYSTEM, AIMS AN/APN- 25 NAVIGATION, ADF (TAC ONLY) AN/APN- 34 RADIO, UHF COMM. AN/APN- 6 NAVIGATION, RADIO COMPASS AN/APN- 14 NAVIGATION, COMI AN/APN- 21 NAVIGATION, TACAN AN/APN- 67 NAVIGATION, GLIDE SLOPE AN/APN- 97 NAVIGATION, ILS TALAR AN/APN- 31 RADIO, EMERGENCY (OR AN/CRT-3) AN/APN- 35 COMPUTER, COPIER AN/APN- 14 PRESSURIZATION SYS. RADAR AN/CRT- 3 RADIO, EMERGENCY (OR AN/APN-31) AN/UNC- 10 PERSONNEL LOCATOR BEACON (SOME A/C) AN/URT- 21 RADIO, EMERGENCY AN/URT- 24(v) RADIO, EMERGENCY (CPT) COLLINS SIV-4 GLIDE SLOPE RECEIVER (SOME A/C) E- 4 AUTOPILOT FN-422A VHF-FM RADIO (SOME A/C) HF-1C2 RADIO, HF COMM. SCR-718 RADAR ALTIMETER (OR AN/APN-133) STD AP FDS FLIGHT DIRECTOR SYSTEM VHF-101 RADIO, VHF COMM. SIZ- 3/4 NAV. MARKER CH.
PRODUCTION COST Average unit flyaway per aircraft 2.0 million DATE OF INTRODUCTION April 1962 NO. MANUFACTURED 403 MANUFACTURER Lockheed Other C-130 Models Still In Production *Estimated From Drawings	

FIGURE C-5 C-130E CHARACTERISTICS

FLIGHT CONTROLS
SYSTEM 14

BLUDDER	HYD/PAW
ELEVATORS	HYD/PAW
AILERONS	HYD/PAW
FLAPS LE/TE	HYD/PTD
EMERGENCY FLAPS	MANUAL
TRIM	ELECT
SPEED BRAKES	HYD
SPOILERS	HYD

ELECTRICAL POWER
SYSTEM 42

NO. OF GENERATORS	4/1
GENERATOR MANUFACTURER	WESTINGHOUSE OR G.E.
KVA EACH GENERATOR	40/20
GENERATOR DRIVE	ENG/ATH
MAIN SYSTEM VOLTAGE	120/208
PHASE/FREQUENCY	3/300-420
QTY./NWP OF TR'S	4/200
CSB MANUFACTURER	N/A
GENERATOR RPM	6,000/18,000
EMERGENCY POWER	BATTERY LEAD/ACID

163

LIGHTING SYSTEM 44		HYDRAULIC/PNEUMATIC SYSTEM 45		FUEL SYSTEM 46		OXYGEN SYSTEM 47	
EXTENSION LIGHTS LOCATION	NUMBER	SYSTEM I DESIGNATION	BOOSTER	MAX. INT. FUEL (GAL.)	7,000	LUX CAPACITY (LITERS)	25 L.
TAIL	2	NO. PUMPS/CAPACITY (GPM)	2/30	MAX. EXT. FUEL (GAL.)	2,000	OPERATING PRESSURE (PSI)	300
ANTI-COLLISION	2	PUMP DRIVE	ENGINE ELECT	NO. BOOST PUMPS	6,000 Int. 37,400 Ext.	DURATION (HR) AT 25,000 FT. MAXIMUM, MALE ONLY	19
LANDING	2	OPERATING PRESS (PSI)	3,000	PUMP CAPACITY (LP HR)	ELECT	AUXILIARY OXYGEN SUPPLY	4 BOTTLES
NAVIGATION	6	SYSTEM II DESIGNATION	UTILITY	PUMP DRIVE	18-24 Int. 28-40 Ext.		
FORMATION	9	NO. PUMPS/CAPACITY	2/30	PUMP PRESSURE	SCAVENGE (4)		
LEADING EDGE	2	PUMP DRIVE	ENG. ELECT	OTHER PUMPS	5,000		
POWER SOURCE (BUS)	ESSENTIAL DC MAIN DC	OPERATING PRESS (PSI)	3,000	PUMP CAPACITY (LB/HR)	ELECT/5		
INTERIOR LIGHTS LOCATION	PILOT COPILOT NAVIGATION FLT ENGINEER CARGO COMP. MISC.	OTHER SYSTEMS INCLUDED IN RATES	AUX. ELECT. PUMP/HAND PUMP	DRIVE/PRESSURE (PSI)			
POWER SOURCE (BUS)	ESSENTIAL AC	OPERATING PRESS (PSI)					
-PILOT & COPILOT	ESSENTIAL AC						
-ENGINE INSTRUMENTS	ESSENTIAL AC						
-ENGINE LIGHTS	ESSENTIAL AC						
-COPILOT SEC. LTS.	ESSENTIAL DC						
-PILOTS & ENG. SEC.	ESSENTIAL DC						
-ALL OTHER INT. LTS.	MAIN DC						
MISCELLANEOUS UTILITIES SYSTEM 49		MISCELLANEOUS UTILITIES SYSTEM 49 (CONT)		INSTRUMENTS SYSTEM 51		AUTOPILOT SYSTEM 52	
CALL LOCATION	LEFT SIDE FLT. DECK	ADJUSTABLE TARGET SYS NO. OF UNITS	(4 TO A SIDE) 0	ANGLE OF ATTACK IND.	2	SYSTEM DESIGNATION	E-4
TOILET FACILITIES	2 EA.	LOCATED	POINTED EXT. ON AIR DEFLECTORS	HORIZONTAL SITUATION IND. (HST)	2	ELECTRONICS EQUIPMENT LOCATION	CABIN
CHEMICAL WILFITS	4 EA.	TRUST CONTROL OPERATED FROM	1000 LBS EACH AUTO CONTROL PUMP	ATTITUDE IND./ADI	2	OTHER FEATURES	PITCH DAPPER
FLARE EXTINGUISHER SYS	INT. FIBES 4-20 CB	FIBED JETTISON CAPABILITY	YES	HEADING IND. GYRO/HAGM.	0/1	SYSTEMS INCLUDED IN RATES	H-1 AND H-2 COMPASS
PURPOSE	1 FLT STAT.	WINDSHIELD WIPERS	2	AIR SPEED/MACH IND.	3/0	INTERCONNECTS	RADIO NAV.
TYPE	1 FLT STAT.	OPERATED LOCATION	ELECTRICAL PILOT & COPILOT WINDSHIELD	ALTITUDE (BAROMETRIC)	3		
NUMBER	2	POWER SOURCE (BUS)	MAIN DC	VERTICAL VELOCITY IND.	2		
LOCATION	3 CARGO COMP.			ACCELEROMETER	1		
NON-PORTABLE (BUILT IN SYSTEM)	2 JAWT CB			TURN & SLIP IND.	IN ADI		
NUMBER OF BOTTLES CONNECTED TO	4 ING. MAGNETS GTC/APU COMP. 100 LB/BOTTLE			CENTRAL AIR DATA COMPUTER	2		
AGENT PSI				CLOCK/OTHERS	3/SETBACK		
				AF STANDARD FLT. DIRECTION SYSTEM	2 UNDER		

FIGURE C-7 C-130E SYSTEMS 44 THROUGH 52 SPECIFICATIONS

HF COMMUNICATION SYSTEM 61		HF COMMUNICATION SYSTEM 62		HF COMMUNICATION SYSTEM 63	
DESCRIPTION LIFE HISTORY RECORDER SYSTEM IN U-63/A PREDICT LIFE EXPECTANCY OF AIRFRAME IN SUPPORT OF AIRCRAFT STRUCTURAL INTEGRITY PROGRAM RECORDS - CARTRIDGE CAPACITY - 15 HOURS CONVERTER - MULTIMETER VARIOUS AIRBORNE SENSORS AIRSPEED ALTITUDE NORMAL ACCELERATION CONTROL SURFACE POSITIONS CABIN PRESSURIZATION PITCH & YAW RATES STRAIN AT VARIOUS LOCATIONS AC PWR TO REC.-MAIN AC DC PWR TO REC.-MAIN DC	PURPOSE	"AM" DESIGNATION REC.-TRANSMITTER LOCATION ANTENNA LOCATION NO. OF REC./TRANSMITTERS NO. OF CONTROL UNITS MODE	MF-102 CARGO COMP. UNDER DECK WIRE ABOVE FUSELAGE 2 2 SSB OR AM	"AM" NO. REC.-TRANSMITTER LOCATION ANTENNA LOCATION NO. OF REC.-TRANSMITTERS NO. OF CONTROL UNITS (COOL AIR SOURCE UNPRESSURIZED CARGO AIR YES	REC-24A OR REC-133 CABIN ELEC. BACK TOP AND BOTTOM FUSELAGE 2 2 CARGO AIR YES
INTERPHONE SYSTEM 64		INTERPHONE SYSTEM 64 (CONT)		EMERGENCY COMMUNICATIONS SYSTEM 66	
TYPE "AM" DESIGNATION FUNCTION PWR SOURCE (BUS) RANGE CONTROL LOCATIONS	INTERCOMMUNICATION EQUIPMENT AIC-10A; AIC-25 (AF 70-1259 & UP) CREW INTERCOMMUNICATION ISOLATED DC STATIONS WITHIN AIRFRAME & EXT. FOR GROUND CREW FLT. CONT. PERMISTAL OVERHEAD CONT. PANEL NAVIGATIONS CONT. PANEL CARGO COMP. TWO AT LEFT REAR AND PARATROOP DOOR	TYPE "AM" DESIGNATION FUNCTION PWR SOURCE (BUS) RANGE CONTROL LOCATIONS	PUBLIC ADDRESS AIC-13 ONE-WAY COMMO WITH PASSENGER AREAS & LOADING CREW MAIN DC INTERIOR OF APIN. & SERV. PERSONNEL MAIN - APIN CONSOLE NAVIGATORS CONTROL PANEL AUXILIARY & PILOT SIDE SHELF, CARGO COMP. (AT LEFT REAR) & AT LEFT REAR PARATROOP DOOR	SYSTEM "AM" DESIGNATION IMPEDER LOCATION TYPE FUNCTIONS PWR SOURCE	EMERGENCY RADIO REC/TRANS UMC-10 (AF68-1093A & UP) 4 (1 FOR EACH LIFE RAFT) LIFE RAFT ACCESSORIES CONTAINERS PORTABLE TRANSMITORIZED TRANSMIT & RECEIVE VOICE SIGNALS TRANSMIT TONE BEACON SIGNAL FOR MONITORING EXTERNAL BATTERY
ATMS/IFF/SIF SYSTEM 65		ATMS/IFF/SIF SYSTEM 65		ATMS/IFF/SIF SYSTEM 65	
"AM" NUMBER ELECTRONIC EQUIP. LOCATION COOLING PRESSURIZATION ANTENNA LOCATION NO. OF CONTROL PANELS	APF-72 UNDER FLT. DECK CARGO AIR RT-859A/APF-72 FWD FUSELAGE TOP & BOTTOM 1	"AM" DESIGNATION IMPEDER LOCATION TYPE FUNCTIONS PWR SOURCE	EMERGENCY RADIO REC/TRANS UMC-10 (AF68-1093A & UP) 4 (1 FOR EACH LIFE RAFT) LIFE RAFT ACCESSORIES CONTAINERS PORTABLE TRANSMITORIZED TRANSMIT & RECEIVE VOICE SIGNALS TRANSMIT TONE BEACON SIGNAL FOR MONITORING EXTERNAL BATTERY		

FIGURE C-8 C-130E SYSTEMS 55 THROUGH 66 SPECIFICATIONS

DATA NORMALIZATION

The process for estimating the missing data, based on the foregoing assumptions, was as follows:

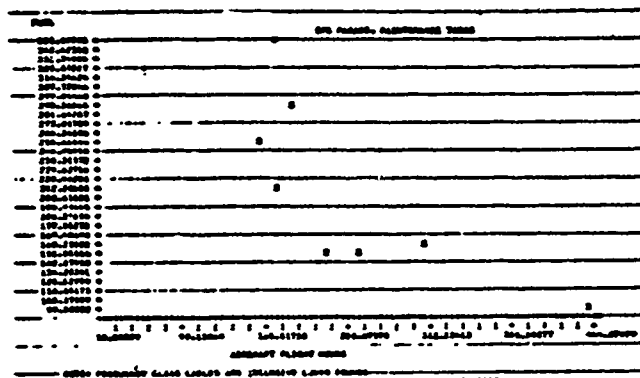
- a. A data manipulation computer program was used to generate scattergrams of each variable in a data-set of interest (such as expenditure of maintenance manhours by aircraft WUC) as a function of every other variable in the data-set and as a function of six key operational parameters for which a complete 15 year history was available. Approximately 7,000 scattergram plots were generated and reviewed for this analysis.
- b. The scattergrams were examined and all possible straight line relationships retained for further analysis.
- c. These candidate variable combinations were then tested by regression analysis to determine their strengths of correlation and the equations for their least squares regression lines.
- d. For each variable in the data-set being analyzed, a "best" relationship was chosen based on the following priority criteria:
 - (1) Strongest correlation with a primary relationship to one of the key operational parameters.
 - (2) If no reasonable primary relationship could be found, then the most highly correlated secondary relationship to some other support resource parameter which did have a strong primary relationship with an operational parameter.
 - (3) If neither of the above criteria could be met, then the best tertiary relationship was selected. This was necessary in only a few of the data cases examined and it was not necessary to go to higher order relationships.
- e. After the "best" relationship was selected for each variable of interest, its regression line was plotted as a function of the appropriate independent variable (operational parameter or related support resource parameter) and the missing years' values estimated by entering the regression with the independent variable values corresponding to the missing years and picking off the estimated dependent values.
- f. The estimated dependent values of the various support resource parameters were then used to fill the appropriate data voids in the historical record.

Figure C-10 illustrates the above process through the data tables and graphs used at successive stages.

MISSING DATA SLICES

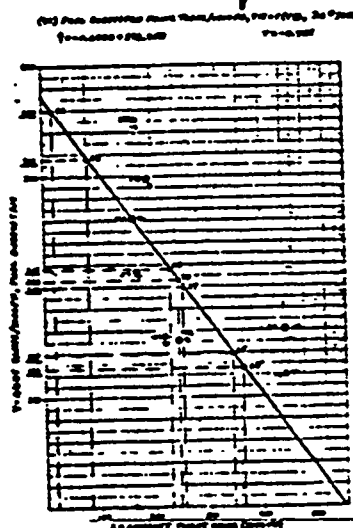
1962
1963
1964
1965
1967
1969
1970

YEAR	1962	1963	1964	1965	1967	1969	1970
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COMPUTER GENERATED SCATTERGRAM
FOR VISUAL SCREENING FOR---
 $Y = F(X)$

EXAMPLE: FUEL SYS MAINT TASKS/1000 FH = $F(\text{AIRCRAFT FLT HRS})$



REGRESSION ANALYSIS OF $Y = F(X)$

$$\hat{Y} = aX + b$$

$$\hat{Y}_{\text{Fuel}} = -0.67X + 372$$

COMPLETE DATA SLICES WITH
ESTIMATES TAKEN FROM
REGRESSION ANALYSIS

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Figure C-10 DATA NORMALIZATION PROCESS FLOW

APPENDIX D

MAINTENANCE STATISTICS

TABLE B-3 C-130E ORGANIZATIONAL AND INTERMEDIATE SUPPORT GENERAL MAINTENANCE MANHOURS PER 1000 FLIGHT HOURS

SYN ID	SYSTEM NAME	1962*	1963*	1964	1965*	1966	1967*	1968*	1969*	1970*	1971	1972*	1973*	1974*	1975*	1976	10 YEAR AVERAGE
01	GROUND HANDLING SERVICING & RELATED TASKS	2494.4	2602.5	2612.5	2612.5	2612.5	2612.5	2612.5	2612.5	2612.5	2612.5	2612.5	2612.5	2612.5	2612.5	2612.5	2612.5
02	AIRCRAFT CLEANING	1232.1	1232.1	1232.1	1232.1	1232.1	1232.1	1232.1	1232.1	1232.1	1232.1	1232.1	1232.1	1232.1	1232.1	1232.1	1232.1
03	LOOK PHASE OF SCHEDULED INSPECTION	7445.0	7445.0	7445.0	7445.0	7445.0	7445.0	7445.0	7445.0	7445.0	7445.0	7445.0	7445.0	7445.0	7445.0	7445.0	7445.0
04	SPECIAL INSPECTIONS	620.9	620.9	620.9	620.9	620.9	620.9	620.9	620.9	620.9	620.9	620.9	620.9	620.9	620.9	620.9	620.9
05	PRESERVATION, DEPRESERVATION, & STORAGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06	ARMING AND DISARMING	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07	PREPARATION & MAINTENANCE OF RECORDS	102.1	102.1	102.1	102.1	102.1	102.1	102.1	102.1	102.1	102.1	102.1	102.1	102.1	102.1	102.1	102.1
08	NOT APPLICABLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09	SHOP SUPPORT GENERAL	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5	49.5
TOTALS		10715.9	10715.9	10715.9	10715.9	10715.9	10715.9	10715.9	10715.9	10715.9	10715.9	10715.9	10715.9	10715.9	10715.9	10715.9	10715.9
01	GROUND HANDLING SERVICING & RELATED TASKS	23.31	23.31	23.31	23.31	23.31	23.31	23.31	23.31	23.31	23.31	23.31	23.31	23.31	23.31	23.31	23.31
02	AIRCRAFT CLEANING	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80
03	LOOK PHASE OF SCHEDULED INSPECTION	65.48	65.48	65.48	65.48	65.48	65.48	65.48	65.48	65.48	65.48	65.48	65.48	65.48	65.48	65.48	65.48
04	SPECIAL INSPECTIONS	6.79	6.79	6.79	6.79	6.79	6.79	6.79	6.79	6.79	6.79	6.79	6.79	6.79	6.79	6.79	6.79
05	PRESERVATION, DEPRESERVATION, & STORAGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06	ARMING AND DISARMING	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07	PREPARATION & MAINTENANCE OF RECORDS	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
08	NOT APPLICABLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09	SHOP SUPPORT GENERAL	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
TOTALS		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
01	GROUND HANDLING SERVICING & RELATED TASKS	8.74	8.74	8.74	8.74	8.74	8.74	8.74	8.74	8.74	8.74	8.74	8.74	8.74	8.74	8.74	8.74
02	AIRCRAFT CLEANING	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03
03	LOOK PHASE OF SCHEDULED INSPECTION	17.10	17.10	17.10	17.10	17.10	17.10	17.10	17.10	17.10	17.10	17.10	17.10	17.10	17.10	17.10	17.10
04	SPECIAL INSPECTIONS	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47
05	PRESERVATION, DEPRESERVATION, & STORAGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06	ARMING AND DISARMING	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07	PREPARATION & MAINTENANCE OF RECORDS	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
08	NOT APPLICABLE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09	SHOP SUPPORT GENERAL	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
TOTALS		29.82	29.82	29.82	29.82	29.82	29.82	29.82	29.82	29.82	29.82	29.82	29.82	29.82	29.82	29.82	29.82

* NORMAL T110

TABLE D-2 C-130E ORGANIZATIONAL AND INTERMEDIATE SYSTEM MAINTENANCE MANHOURS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	1850.0	1205.0	1438.0	2090.0	1818.2	1390.0	938.7	800.0	840.0	976.9	841.7	1231.3	1685.5	1511.7	1792.9	1357.0
12	ENGINE AND FUSELAGE	615.0	460.0	347.6	650.0	458.2	400.0	390.1	240.0	240.0	350.6	292.7	512.2	656.6	480.6	692.2	470.3
13	LANDING GEAR	1408.0	765.0	745.7	820.0	778.2	900.0	941.0	715.0	670.0	811.2	594.3	553.3	685.4	620.8	679.8	535.7
14	FLIGHT CONTROLS	670.0	470.0	394.2	710.0	716.6	500.0	395.5	355.0	355.0	431.1	356.5	413.4	570.2	495.9	431.6	468.4
22	TURBO PROP POWER PLANT	1900.0	1460.0	1590.0	2000.0	1594.3	1520.0	1115.8	1200.0	1200.0	1515.4	1078.2	1229.5	1598.0	1455.9	1741.2	1446.5
24	AUXILIARY POWER PLANT	364.0	200.0	205.6	214.0	206.2	234.0	200.6	186.0	174.0	110.6	115.4	166.7	203.7	180.3	195.3	194.7
26	HYDRAULIC PUMP/FLTR	1640.0	940.0	949.8	1000.0	1118.7	1090.0	1105.7	800.0	820.0	812.7	715.8	814.7	684.9	715.7	835.6	913.1
41	AIR CONDITIONING, PRESSURIZATION	638.0	417.0	378.9	428.0	366.3	443.0	518.0	412.0	404.0	420.3	349.4	271.9	493.9	390.6	418.9	414.5
42	ELECTRICAL POWER SUPPLY	420.0	238.0	343.9	254.0	291.1	276.0	237.2	224.0	212.0	182.2	132.2	182.9	215.0	221.3	264.3	241.0
43	LIGHTING SYSTEM	246.0	177.0	134.7	184.0	187.4	193.0	218.7	172.0	168.0	151.2	120.3	161.3	222.9	198.0	212.0	172.5
45	HYDRAULIC AND PNEUMATIC	455.0	342.0	281.1	353.0	349.8	368.0	459.0	335.0	327.0	335.1	245.1	309.6	407.3	328.4	347.7	335.8
46	FUEL	1400.0	870.0	484.7	645.0	872.6	1470.0	1077.3	902.0	970.0	916.7	797.6	1030.0	1110.4	985.1	1240.0	959.6
47	OXYGEN	109.0	74.0	38.2	78.0	49.3	82.5	137.1	72.0	69.5	87.8	55.9	63.6	81.0	69.9	89.8	74.4
49	HEAT EXCHANGERS	200.5	125.5	170.9	172.0	131.6	141.5	112.2	120.0	115.0	89.5	78.6	114.4	152.4	129.6	167.7	125.7
51	INSTRUMENTS	992.0	392.0	632.4	445.0	697.3	517.0	219.8	342.0	305.0	180.5	191.6	213.4	225.6	192.2	192.0	278.3
52	ANTENNA	296.0	225.0	164.6	198.0	314.1	297.0	259.3	229.0	237.0	237.1	206.9	246.9	265.1	232.0	215.2	232.9
53	RELECTED FUEL & ACCOUNTING EQUIP.	0.0	0.0	0.0	0.0	1.4	0.7	1.4	1.5	1.8	94.6	86.5	91.2	110.9	122.4	134.0	154.4
61	W/ COMMUNICATIONS	309.0	174.0	144.8	180.0	296.0	195.0	163.9	162.0	154.0	48.7	32.7	34.8	41.4	60.2	39.3	55.5
62	W/ COMMUNICATIONS	120.0	57.7	59.5	63.0	83.6	70.8	65.5	52.5	48.5	48.7	32.7	34.8	41.4	60.2	39.3	55.5
63	W/ COMMUNICATIONS	405.0	245.0	170.8	259.0	271.2	278.0	306.6	232.0	222.0	236.7	183.5	198.9	211.2	201.0	215.9	231.4
64	INTERPHONE	56.0	76.5	127.2	164.0	204.4	170.5	139.1	131.0	130.5	131.0	113.5	110.7	106.4	85.5	89.2	132.9
65	IFF	0.0	0.0	75.8	177.5	241.8	192.5	185.2	112.0	102.5	143.2	34.7	29.6	45.4	61.0	60.0	110.5
66	EMERGENCY COMMUNICATIONS	0.0	0.0	13.6	12.2	22.6	30.6	35.8	49.4	57.5	55.3	70.2	79.0	95.8	82.4	112.0	44.7
69	HEAT EXCHANGERS	39.0	13.3	18.1	15.4	23.9	18.6	13.9	11.1	9.4	7.7	8.4	7.1	5.8	3.9	3.4	12.5
71	RADIO NAVIGATION	323.0	340.0	323.0	375.0	545.5	408.0	481.8	443.0	462.0	487.1	394.6	304.1	443.7	401.0	661.2	410.1
72	RAIAR NAVIGATION	640.0	645.0	627.1	775.0	851.1	860.0	1041.3	955.0	995.0	1283.6	842.0	603.1	957.6	1077.6	1199.8	873.4
91	EMERGENCY EQUIPMENT	160.0	83.5	81.7	90.0	51.9	99.2	100.3	77.3	72.5	61.9	51.4	62.9	68.4	67.8	56.2	78.6
92	PERSONNEL EQUIPMENT	0.11	0.1	2.4	0.2	0.6	0.2	0.4	0.3	0.3	0.2	0.2	0.1	1.0	0.2	1.0	1.2
97	EXERCISE VEHICLES	0.9	1.2	1.4	1.7	1.6	2.2	13.4	2.8	3.0	4.6	3.1	3.5	4.8	2.8	4.2	2.8
TOTALS		15314.4	10136.6	9975.3	12222.0	13014.2	12228.3	111210.6	9609.8	9335.5	10,036.5	8,101.2	9,102.6	11,476.4	10,155.4	12,329.8	10447.2

* MODIFIED DATA

TABLE D-3 C-130F PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE SYSTEM MAINTENANCE MANHOURS

SYS	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11 AIRBASE	12.73	12.87	14.4	16.24	15.0	11.32	8.4	9.16	9.23	9.7	10.4	14.7	15.82	16.7	12.72
12 AIRCRAFT AND FUSLAGE	4.02	4.51	3.5	5.28	3.5	3.93	3.5	3.25	3.78	3.5	4.2	5.7	5.23	5.8	4.31
13 LANDING GEAR	9.18	7.55	7.6	6.65	7.6	7.26	9.4	7.44	7.81	6.8	7.2	6.1	5.23	5.2	6.90
14 FLIGHT CONTROLS	4.32	4.64	4.0	5.76	5.5	4.09	3.6	3.64	3.74	5.3	4.4	4.5	3.80	3.6	4.39
22 TURBO PROP POWER PLANT	17.41	14.40	15.3	16.23	12.2	12.43	12.8	12.53	12.88	15.3	13.3	13.6	13.34	14.5	13.94
24 AUXILIARY POWER PLANT	2.38	1.97	2.1	1.74	2.2	1.91	1.8	1.84	1.82	1.4	1.4	1.8	1.78	1.6	1.83
32 HYDRAULIC POWER	10.21	9.77	9.5	8.12	9.1	6.91	9.5	8.16	8.16	7.1	8.9	6.0	7.05	7.8	8.56
41 AIR CONDITIONING, PRESSURIZATION	1.51	4.11	3.8	3.47	2.8	3.62	4.6	4.29	4.24	4.2	4.3	4.1	3.85	3.8	3.82
42 ELECTRICAL POWER SUPPLY	2.74	2.35	3.5	2.06	2.2	2.26	2.0	2.33	2.22	1.6	1.4	2.0	2.18	2.4	2.26
44 LIGHTING SYSTEM	1.61	1.75	1.4	1.49	1.4	1.58	2.0	1.73	1.78	1.3	1.3	1.9	1.54	1.6	1.62
45 HEATING AND VENTILATION	2.97	3.37	2.8	2.86	2.7	3.01	4.1	3.49	3.32	3.2	3.0	3.4	3.23	2.9	3.15
46 FUEL	9.53	8.50	9.7	5.23	6.7	12.02	9.4	9.37	10.12	9.1	9.8	11.3	9.70	10.2	9.00
47 OXYGEN	0.71	0.73	0.4	0.63	0.4	0.67	1.3	1.25	0.73	0.7	0.7	0.7	0.69	0.7	0.70
49 HSC UTILITIES	1.31	1.24	1.3	1.07	1.0	1.16	1.0	1.25	1.21	0.5	1.0	1.2	1.24	1.4	1.18
51 INSTRUMENTS	4.48	3.67	6.3	3.61	5.4	4.23	2.0	3.56	3.20	1.8	2.4	2.3	2.09	1.6	3.53
53 INSTRUMENTS	1.93	2.22	1.7	1.61	2.4	2.43	2.3	2.38	2.49	2.4	2.5	2.3	2.28	1.8	2.18
55 AUTOMATIC DATA & RECORDING EQUIP	0.00	0.00	-	0.00	0.0	0.01	0.0	0.02	0.02	-	-	-	0.02	0.0	0.01
61 HF COMMUNICATIONS	2.02	1.72	1.4	1.53	2.3	1.59	1.5	1.69	1.62	0.9	1.1	1.0	1.21	1.1	1.45
62 VHF COMMUNICATIONS	0.76	0.57	0.6	0.61	0.6	0.58	0.6	0.55	0.51	0.5	0.5	0.4	0.49	0.3	0.52
63 UHF COMMUNICATIONS	2.64	2.42	1.7	2.10	2.1	2.27	2.7	2.41	2.33	2.4	2.2	1.8	1.98	1.7	2.17
64 JMWAVE	0.37	0.75	1.2	1.33	1.6	1.39	1.2	1.39	1.37	1.3	1.4	0.9	0.84	0.7	1.25
65 HF	0.00	0.00	0.8	1.44	1.9	1.57	1.7	1.17	1.07	1.4	0.4	0.3	0.4	0.5	1.04
66 AIRCRAFT COMMUNICATIONS	0.63	0.00	0.1	0.10	0.2	0.25	0.3	0.51	0.60	0.5	0.9	0.8	0.81	0.9	0.42
69 HSC COMMUNICATIONS	0.26	0.13	0.2	0.12	0.2	0.15	0.1	0.12	0.10	0.1	0.1	0.1	0.04	0.0	0.12
71 RADIO NAVIGATION	2.11	3.35	3.2	3.04	4.2	3.34	4.3	4.61	4.85	4.9	4.9	3.3	4.74	4.6	3.84
72 RADAR NAVIGATION	4.10	6.76	7.0	6.29	6.5	7.03	9.4	9.69	10.41	12.6	10.4	6.6	10.22	9.9	8.19
91 EMERGENCY EQUIPMENT	1.04	0.82	0.8	0.73	0.4	0.81	0.9	0.80	0.76	0.6	0.6	0.6	0.57	0.5	0.74
96 PASSENGER EQUIPMENT	0.60	0.00	0.1	0.00	0.0	0.00	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0	0.01
97 EXPLOSIVE DEVICES	0.01	0.01	0.0	0.01	0.0	0.02	0.1	0.03	0.03	0.1	0.1	0.1	0.03	0.0	0.03
TOTALS	100.00	100.00	100.0	100.00	100.0	100.00	100.0	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.00

* NORMALIZED DATA

TABLE D-4 C-130E ORGANIZATIONAL AND INTERMEDIATE SYSTEM MAINTENANCE MANHOURS PER SORTIE

SYS.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
10.	AIRFRAME	9.0977	9.0977	9.0977	9.0977	9.0977	9.0977	9.0977	9.0977	9.0977	9.0977	9.0977	9.0977	9.0977	9.0977	9.0977	9.0977
11	CONCEPT AND FUSelage	2.8145	2.8145	2.8145	2.8145	2.8145	2.8145	2.8145	2.8145	2.8145	2.8145	2.8145	2.8145	2.8145	2.8145	2.8145	2.8145
12	WINGING CLAR	3.3504	3.3504	3.3504	3.3504	3.3504	3.3504	3.3504	3.3504	3.3504	3.3504	3.3504	3.3504	3.3504	3.3504	3.3504	3.3504
13	FLIGHT CONTROLS	3.0743	3.0743	3.0743	3.0743	3.0743	3.0743	3.0743	3.0743	3.0743	3.0743	3.0743	3.0743	3.0743	3.0743	3.0743	3.0743
14	TURBO PROP POWER PLANT	8.4600	8.4600	8.4600	8.4600	8.4600	8.4600	8.4600	8.4600	8.4600	8.4600	8.4600	8.4600	8.4600	8.4600	8.4600	8.4600
22	AUXILIARY POWER PLANT	0.9266	0.9266	0.9266	0.9266	0.9266	0.9266	0.9266	0.9266	0.9266	0.9266	0.9266	0.9266	0.9266	0.9266	0.9266	0.9266
24	HYDRAULIC SYSTEM	4.3300	4.3300	4.3300	4.3300	4.3300	4.3300	4.3300	4.3300	4.3300	4.3300	4.3300	4.3300	4.3300	4.3300	4.3300	4.3300
26	AIR CONDITIONING, PRESSURIZATION	1.8512	1.8512	1.8512	1.8512	1.8512	1.8512	1.8512	1.8512	1.8512	1.8512	1.8512	1.8512	1.8512	1.8512	1.8512	1.8512
30	ELECTRICAL POWER SUPPLY	1.0998	1.0998	1.0998	1.0998	1.0998	1.0998	1.0998	1.0998	1.0998	1.0998	1.0998	1.0998	1.0998	1.0998	1.0998	1.0998
44	FLIGHTING SYSTEM	0.7967	0.7967	0.7967	0.7967	0.7967	0.7967	0.7967	0.7967	0.7967	0.7967	0.7967	0.7967	0.7967	0.7967	0.7967	0.7967
45	INTERMEDIATE AND INTERMEDIATE	1.8205	1.8205	1.8205	1.8205	1.8205	1.8205	1.8205	1.8205	1.8205	1.8205	1.8205	1.8205	1.8205	1.8205	1.8205	1.8205
46	FLIGHT	2.7829	2.7829	2.7829	2.7829	2.7829	2.7829	2.7829	2.7829	2.7829	2.7829	2.7829	2.7829	2.7829	2.7829	2.7829	2.7829
47	ORIGIN	0.5716	0.5716	0.5716	0.5716	0.5716	0.5716	0.5716	0.5716	0.5716	0.5716	0.5716	0.5716	0.5716	0.5716	0.5716	0.5716
49	INSTRUMENTS	1.9649	1.9649	1.9649	1.9649	1.9649	1.9649	1.9649	1.9649	1.9649	1.9649	1.9649	1.9649	1.9649	1.9649	1.9649	1.9649
51	INSTRUMENTS	0.0573	0.0573	0.0573	0.0573	0.0573	0.0573	0.0573	0.0573	0.0573	0.0573	0.0573	0.0573	0.0573	0.0573	0.0573	0.0573
52	ANALOG	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600	0.0600
53	PROFESSIONAL JET - RECORDING EQUIP.	0.8140	0.8140	0.8140	0.8140	0.8140	0.8140	0.8140	0.8140	0.8140	0.8140	0.8140	0.8140	0.8140	0.8140	0.8140	0.8140
61	IN COMMUNICATIONS	0.2128	0.2128	0.2128	0.2128	0.2128	0.2128	0.2128	0.2128	0.2128	0.2128	0.2128	0.2128	0.2128	0.2128	0.2128	0.2128
62	IN COMMUNICATIONS	1.1215	1.1215	1.1215	1.1215	1.1215	1.1215	1.1215	1.1215	1.1215	1.1215	1.1215	1.1215	1.1215	1.1215	1.1215	1.1215
63	IN COMMUNICATIONS	0.7101	0.7101	0.7101	0.7101	0.7101	0.7101	0.7101	0.7101	0.7101	0.7101	0.7101	0.7101	0.7101	0.7101	0.7101	0.7101
64	INTERMEDIATE	0.7686	0.7686	0.7686	0.7686	0.7686	0.7686	0.7686	0.7686	0.7686	0.7686	0.7686	0.7686	0.7686	0.7686	0.7686	0.7686
65	IN	0.0528	0.0528	0.0528	0.0528	0.0528	0.0528	0.0528	0.0528	0.0528	0.0528	0.0528	0.0528	0.0528	0.0528	0.0528	0.0528
66	IN MIDDLE COMMUNICATIONS	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667
69	IN COMMUNICATIONS	1.6237	1.6237	1.6237	1.6237	1.6237	1.6237	1.6237	1.6237	1.6237	1.6237	1.6237	1.6237	1.6237	1.6237	1.6237	1.6237
71	RADIO NAVIGATION	1.3558	1.3558	1.3558	1.3558	1.3558	1.3558	1.3558	1.3558	1.3558	1.3558	1.3558	1.3558	1.3558	1.3558	1.3558	1.3558
72	RADIO NAVIGATION	0.3097	0.3097	0.3097	0.3097	0.3097	0.3097	0.3097	0.3097	0.3097	0.3097	0.3097	0.3097	0.3097	0.3097	0.3097	0.3097
91	EMERGENCY EQUIPMENT	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007
96	PARACHUTE EQUIPMENT	0.0071	0.0071	0.0071	0.0071	0.0071	0.0071	0.0071	0.0071	0.0071	0.0071	0.0071	0.0071	0.0071	0.0071	0.0071	0.0071
97	EXTENSIVE DEVICES	0.0064	0.0064	0.0064	0.0064	0.0064	0.0064	0.0064	0.0064	0.0064	0.0064	0.0064	0.0064	0.0064	0.0064	0.0064	0.0064
TOTALS		81.3541	81.3541	81.3541	81.3541	81.3541	81.3541	81.3541	81.3541	81.3541	81.3541	81.3541	81.3541	81.3541	81.3541	81.3541	81.3541

* ADJUSTED DATA

TABLE D-5 C-130C PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE SYSTEM MAINTENANCE MANHOURLS BY SERVICING (SV) - SCHEDULED (SC) - UNSCHEDULED (UN) - OTHER (OT)

SYS. NO.	SYSTEM NAME	1971				1972				1973				1974				1975				1976				6 YEAR AVERAGE					
		SV	SC	UN	OT	SV	SC	UN	OT	SV	SC	UN	OT	SV	SC	UN	OT	SV	SC	UN	OT	SV	SC	UN	OT	SV	SC	UN	OT		
11	AIRFRAME	0.3	14.1	5.1	0.4	0.4	18.6	9.2	0.3	0.3	31.2	10.1	0.2	0.1	31.1	10.4	0.1	1.7	19.1	18.1	0.3	1.0	14.6	11.7	0.6	0.7	50.1	10.7	0.3		
12	ENGINE AND AUXILIARY	0.7	31.4	6.5	0.6	1.2	29.2	29.4	0.2	0.6	25.4	22.4	0.5	0.4	32.4	27.2	0.3	2.1	31.2	26.7	0.2	1.8	43.3	54.8	0.4	1.1	31.1	66.5	0.2		
13	LANDING GEAR	0.4	14.7	0.3	1.4	0.1	15.5	0.1	0.5	0.3	21.6	18.1	0.1	0.1	23.6	15.1	0.4	0.0	23.4	25.7	0.6	0.2	22.6	26.6	0.7	0.5	19.8	29.7	0.4		
14	FLIGHT CONTROLS	0.1	10.5	0.1	1.3	0.1	19.7	59.1	0.3	0.0	31.2	64.5	0.4	0.0	44.3	35.5	0.4	0.0	41.1	58.2	0.5	0.1	41.1	58.1	0.6	0.0	39.1	100.7	0.6		
15	TURBO PROP ENGINE PLANT	1.0	18.4	19.1	1.6	1.2	16.1	10.2	0.4	0.6	18.1	19.1	0.6	0.7	17.4	25.1	0.4	0.3	18.1	20.2	1.1	0.4	16.2	28.1	2.1	0.7	17.7	100.4	1.6		
16	AIRCRAFT POWER PLANT	0.1	9.3	0.7	2.3	0.2	10.6	55.2	0.5	0.1	14.7	45.1	0.1	0.1	15.7	40.3	0.1	0.1	14.1	41.1	1.5	0.1	16.3	41.1	2.6	0.1	14.1	84.1	0.9		
17	INTEGRALIC PROPULSION	0.2	18.1	10.1	1.6	0.2	10.6	55.2	0.5	0.4	43.4	55.2	0.6	0.1	38.4	60.1	1.2	0.1	38.4	60.1	1.2	0.1	40.7	57.5	1.2	0.2	40.7	62.4	1.2		
18	AIR CONDITIONING, PRE-HEATING	0.1	11.3	0.4	2.0	0.1	10.4	10.5	0.9	0.0	22.4	77.5	0.4	0.1	22.7	77.5	0.1	0.0	24.7	73.1	1.1	0.1	24.6	73.2	1.5	0.1	22.4	76.1	1.6		
19	ELECTRICAL POWER SUPPLY	0.1	11.3	0.4	2.0	0.1	10.4	10.5	0.9	0.0	22.4	77.5	0.4	0.1	22.7	77.5	0.1	0.0	24.7	73.1	1.1	0.1	24.6	73.2	1.5	0.1	22.4	76.1	1.6		
20	INTEGRALIC SYSTEM	0.1	11.3	0.4	2.0	0.1	10.4	10.5	0.9	0.0	22.4	77.5	0.4	0.1	22.7	77.5	0.1	0.0	24.7	73.1	1.1	0.1	24.6	73.2	1.5	0.1	22.4	76.1	1.6		
21	INTEGRALIC AND PNEUMATIC	0.1	11.3	0.4	2.0	0.1	10.4	10.5	0.9	0.0	22.4	77.5	0.4	0.1	22.7	77.5	0.1	0.0	24.7	73.1	1.1	0.1	24.6	73.2	1.5	0.1	22.4	76.1	1.6		
22	FUEL	0.0	7.1	0.0	2.1	0.0	7.7	17.9	0.4	0.0	4.1	15.7	0.2	0.0	6.9	1.9	0.4	0.1	7.1	9.1	0.5	0.1	9.1	9.0	0.4	0.5	3.0	2.0	0.6		
23	EXHAUST	0.7	11.1	10.0	6.2	0.2	10.3	10.7	0.9	0.0	15.1	13.7	0.4	0.4	21.1	17.4	0.6	0.1	32.1	17.4	0.6	0.2	22.1	17.4	0.6	0.2	17.4	14.1	0.9		
24	OPTIC	0.1	21.2	14.1	3.0	0.1	26.1	17.2	1.2	3.4	12.6	6.1	0.5	0.1	35.1	16.1	0.1	0.1	32.1	16.1	0.1	0.1	32.1	16.1	0.1	0.1	32.1	16.1	0.1		
25	MISC. UTILITIES	0.0	4.1	0.1	0.0	0.1	4.7	14.4	0.0	0.1	6.4	13.2	0.3	0.1	9.1	10.1	0.0	0.1	8.1	10.1	1.2	0.0	8.7	10.1	1.4	0.1	6.9	11.1	1.1		
26	INSURANCE	0.2	1.5	0.1	0.0	0.3	6.4	12.0	1.2	0.3	14.5	14.2	1.0	0.3	9.2	16.7	1.0	0.3	10.4	10.6	2.1	0.3	8.9	10.6	2.2	0.3	9.4	10.5	1.9		
27	AUTOPILOT	0.1	3.1	0.1	0.0	0.4	9.1	19.1	0.6	0.1	13.5	15.1	0.4	0.6	5.4	10.4	1.6	0.6	12.0	17.1	0.0	0.6	12.0	17.1	0.0	0.6	12.0	17.1	0.0		
28	FUNCTIONAL AID: RECORDING EQUIP.	0.1	3.1	0.1	0.0	0.4	9.1	19.1	0.6	0.1	13.5	15.1	0.4	0.6	5.4	10.4	1.6	0.6	12.0	17.1	0.0	0.6	12.0	17.1	0.0	0.6	12.0	17.1	0.0		
29	HF COMMUNICATIONS	0.1	3.1	0.1	0.0	0.4	9.1	19.1	0.6	0.1	13.5	15.1	0.4	0.6	5.4	10.4	1.6	0.6	12.0	17.1	0.0	0.6	12.0	17.1	0.0	0.6	12.0	17.1	0.0		
30	VHF COMMUNICATIONS	0.1	3.1	0.1	0.0	0.4	9.1	19.1	0.6	0.1	13.5	15.1	0.4	0.6	5.4	10.4	1.6	0.6	12.0	17.1	0.0	0.6	12.0	17.1	0.0	0.6	12.0	17.1	0.0		
31	UHF COMMUNICATIONS	0.1	3.1	0.1	0.0	0.4	9.1	19.1	0.6	0.1	13.5	15.1	0.4	0.6	5.4	10.4	1.6	0.6	12.0	17.1	0.0	0.6	12.0	17.1	0.0	0.6	12.0	17.1	0.0		
32	INSTRUMENT	0.4	5.1	0.1	0.0	0.1	12.1	10.1	0.1	0.6	15.1	13.1	0.6	0.1	13.1	16.6	0.2	0.1	12.1	15.6	1.6	0.1	11.1	16.6	1.6	0.1	12.1	16.6	1.1		
33	IFF	0.1	2.4	0.7	10.7	0.0	7.7	17.9	4.9	0.1	5.1	13.1	1.7	0.2	6.1	17.2	1.1	0.0	12.1	16.1	3.6	0.2	11.1	17.2	3.3	0.0	6.1	17.2	3.3		
34	IDENTIFICATION COMMUNICATIONS	0.4	16.1	17.1	0.7	0.4	10.5	10.5	0.7	0.3	40.1	59.1	0.2	0.2	51.1	48.1	0.3	1.0	57.1	41.6	0.4	1.0	57.1	41.6	0.4	1.0	57.1	41.6	0.4		
35	MISC. COMMUNICATIONS	0.0	7.9	0.1	0.0	0.1	10.1	19.1	1.1	0.2	11.1	10.0	0.0	0.2	10.1	17.1	2.1	0.0	10.1	19.1	0.3	0.0	10.1	17.1	2.1	0.0	10.1	17.1	2.1		
36	RADIO NAVIGATION	0.2	2.9	0.1	0.0	0.2	3.0	14.9	1.1	0.1	3.2	15.1	1.2	0.0	4.1	13.1	2.9	0.7	5.1	10.1	3.9	0.6	5.1	10.1	3.9	0.6	5.1	10.1	3.9		
37	RADIO NAVIGATION	0.1	1.0	0.7	5.6	0.2	3.4	14.1	1.7	0.2	4.1	13.1	4.4	0.1	3.4	13.1	2.9	0.7	5.1	10.1	3.9	0.6	5.1	10.1	3.9	0.6	5.1	10.1	3.9		
38	EMERGENCY EQUIPMENT	4.2	44.1	53.0	0.3	3.4	38.1	10.4	1.5	2.0	54.1	11.1	0.7	0.8	32.1	66.1	0.0	2.3	41.1	54.1	1.1	0.2	40.1	59.1	0.5	0.2	40.1	59.1	0.5		
39	FLIGHTING EQUIPMENT	4.0	11.9	0.0	0.0	4.0	11.9	0.0	0.0	93.1	6.5	0.0	0.0	93.1	6.5	0.0	0.0	93.1	6.5	0.0	0.0	93.1	6.5	0.0	0.0	93.1	6.5	0.0	0.0	93.1	6.5
40	EXPLOSIVE DEVICES	1.2	41.1	17.1	0.0	0.0	18.1	27.1	0.4	0.8	56.1	40.1	1.4	1.3	12.1	16.1	0.0	2.6	15.1	19.1	3.1	3.8	17.1	18.1	0.4	3.4	17.1	18.1	0.4		
TOTAL		0.4	14.1	10.2	2.3	0.4	18.1	10.5	2.1	0.3	14.1	14.5	0.6	0.2	14.1	14.1	0.1	0.7	14.1	17.1	1.4	0.6	15.1	17.1	1.5	0.4	12.1	16.1	1.4		

TABLE D-6 C-130E ORGANIZATIONAL AND INTERMEDIATE TROUBLESHOOTING SYSTEM MAINTENANCE MANHOURS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRPLANE	14.4	9.6	10.6	15.6	3.3	10.3	3.1	6.6	6.6	7.6	6.3	6.4	18.2	14.5	12.1	10.2
12	ENGINE AND FUELAGE	5.0	3.7	2.8	5.3	2.0	3.9	0.6	2.2	2.9	3.0	3.1	4.1	5.6	4.8	4.4	3.8
13	LANDING GEAR	51.4	29.6	29.2	31.7	18.3	34.8	20.7	27.2	25.9	42.5	27.5	22.7	30.1	28.2	32.2	29.9
14	FLIGHT CONTROLS	22.3	15.6	12.1	23.6	8.9	16.6	7.3	11.8	11.9	15.5	14.5	15.8	21.6	15.4	16.0	15.9
15	TURBO PROP POWER PLANT	104.9	80.6	87.8	110.6	33.9	83.9	45.4	66.2	66.2	5.0	64.0	81.6	111.0	94.0	101.2	83.9
16	AUXILIARY POWER PLANT	37.6	20.6	21.2	22.1	15.3	24.1	12.2	19.2	18.1	21.6	12.3	22.3	27.6	22.0	19.7	21.0
17	HYDRAULIC POWER PLANT	40.3	22.1	23.4	24.6	25.3	26.6	12.7	21.6	20.5	20.6	21.1	23.6	23.3	25.3	24.4	21.4
18	HYDRAULIC SYSTEM	90.6	70.2	63.8	72.1	27.5	74.6	70.4	69.4	69.0	51.9	61.1	62.6	94.2	73.5	81.9	76.3
19	AIR CONDITIONING & PRESSURIZATION	33.6	19.1	27.5	20.3	13.9	22.1	14.1	12.9	17.0	20.7	14.1	17.7	21.9	23.2	22.6	22.4
20	ELECTRICAL POWER SUPPLY	18.2	13.1	10.0	12.6	6.9	14.3	8.8	12.8	12.5	11.5	9.3	14.3	14.8	13.8	19.7	12.5
21	LIGHTING SYSTEM	18.0	13.5	11.1	14.0	11.1	14.6	7.0	13.3	12.9	14.3	9.4	14.3	15.4	15.2	18.4	13.4
22	HYDRAULIC AND PNEUMATIC	197.4	117.6	63.4	87.2	16.6	196.7	89.0	121.7	131.1	111.6	115.5	122.6	170.3	135.9	172.0	127.0
23	FUEL	14.8	10.0	6.2	10.6	2.1	11.2	9.5	9.8	9.4	10.4	8.9	10.0	11.0	10.8	14.8	9.8
24	OTEC	25.5	16.0	15.7	16.8	9.5	18.0	9.0	15.3	14.6	13.9	12.5	17.6	19.8	17.6	21.9	16.4
25	MISC. UTILITIES	124.4	49.2	78.3	55.8	69.0	64.8	27.7	42.9	30.2	40.9	46.1	60.7	53.7	43.8	44.4	53.7
26	INSTRUMENTS	58.0	44.0	32.2	38.0	17.6	58.2	35.2	44.8	46.4	45.5	40.1	47.3	54.6	46.9	43.6	45.2
27	AUTOPILLOT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.6	0.0
28	NAVIGATION AID, & RECORDING EQUIP.	13.0	7.3	6.1	7.9	6.3	8.2	11.7	6.8	6.5	6.2	6.2	6.4	7.4	6.6	4.5	7.0
29	HF COMMUNICATIONS	5.0	2.4	2.4	2.6	0.7	2.9	4.6	2.2	2.0	4.2	2.7	1.9	2.3	1.3	0.5	2.4
30	VHF COMMUNICATIONS	16.1	9.8	6.8	10.3	3.8	11.1	27.9	9.2	8.8	11.3	9.3	2.0	7.4	8.5	5.0	9.5
31	UHF COMMUNICATIONS	2.8	3.8	5.7	7.6	1.4	7.9	3.1	6.2	6.1	9.5	6.9	6.3	7.1	5.8	3.7	6.8
32	INTERPHONE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	IFF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34	EMERGENCY COMMUNICATIONS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	IFF COMMUNICATIONS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
36	NAV. INVOIGATION	23.7	25.0	23.7	27.5	16.6	29.9	40.4	32.5	31.9	36.9	28.4	24.3	37.1	26.0	31.6	29.6
37	NAV. INVOIGATION	45.8	48.8	49.6	55.2	17.4	61.2	58.0	67.8	70.8	122.0	64.7	62.4	68.6	47.4	45.7	60.6
38	EMERGENCY EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	PERSONNEL EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	PERSONNEL SERVICES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41	TOTALS	946.0	632.6	596.5	681.1	332.2	809.5	540.1	630.9	643.2	761.4	892.5	832.1	837.3	680.4	746.6	641.9

* MANUAL DATA

TABLE D-8 C-130E ORGANIZATIONAL AND INTERMEDIATE SYSTEM TROUBLESHOOTING MANHOURS PER SORTIE

SYS	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
10.	AIRFRAME				0.0471	0.014	0.0298	0.0123	0.0126	0.017	0.015	0.022	0.055	0.0409	0.0312	0.0230
11	COCKPIT AND FUSelage				0.0229	0.008	0.0113	0.0055	0.0056	0.007	0.009	0.011	0.016	0.0135	0.0115	0.0090
12	LANDING GEAR				0.1773	0.078	0.1006	0.0524	0.0502	0.093	0.077	0.059	0.048	0.0795	0.0621	0.0742
13	FLIGHT CONTROLS				0.1022	0.037	0.0190	0.0123	0.0123	0.012	0.040	0.041	0.063	0.0414	0.0464	0.0343
14	WING PROP POWER PLANT				0.4780	0.139	0.2425	0.084	0.1251	0.174	0.128	0.211	0.223	0.2707	0.2611	0.1952
15	AUXILIARY POWER PLANT				0.0957	0.051	0.0696	0.034	0.0343	0.047	0.035	0.054	0.080	0.0620	0.0508	0.0523
16	HYDRAULIC POWER SUPPLY				0.1065	0.109	0.0725	0.04	0.0396	0.045	0.059	0.041	0.068	0.0711	0.0620	0.0598
17	AIR CONDITIONING, PRESSURIZATION				0.1122	0.113	0.2156	0.133	0.1319	0.134	0.170	0.164	0.274	0.2073	0.2113	0.1713
18	ELECTRICAL POWER SUPPLY				0.0879	0.057	0.0839	0.07	0.0330	0.045	0.079	0.046	0.064	0.0654	0.0738	0.0491
19	ENGINE SYSTEM				0.0589	0.024	0.0413	0.016	0.0242	0.025	0.028	0.037	0.043	0.0389	0.0508	0.0314
20	HYDRAULIC AND PNEUMATIC				0.0608	0.046	0.0422	0.013	0.0250	0.031	0.076	0.037	0.045	0.0429	0.0475	0.0340
21	FUEL				0.3776	0.060	0.5742	0.166	0.2360	0.2543	0.321	0.317	0.494	0.3832	0.4134	0.3043
22	DESIGN				0.0459	0.009	0.0374	0.018	0.0185	0.0182	0.025	0.026	0.032	0.0299	0.0382	0.0245
23	MISC. UTILITIES				0.0727	0.039	0.0520	0.017	0.0289	0.0283	0.035	0.045	0.058	0.0494	0.0545	0.0390
24	INSTRUMENTS				0.2416	0.203	0.1873	0.052	0.0811	0.0741	0.134	0.131	0.154	0.1230	0.1146	0.1319
25	AUTOPILLOT				0.1642	0.072	0.1682	0.067	0.0847	0.0940	0.112	0.122	0.171	0.1323	0.1125	0.1104
26	NAVIGATION AND RECORDING EQUIP.				0.0000	0.000	0.0000	0.000	0.0000	0.000	0.000	0.000	0.000	0.0017	0.0041	0.0000
27	IFF COMMUNICATIONS				0.0342	0.026	0.0332	0.022	0.0129	0.0126	0.015	0.017	0.022	0.0158	0.0116	0.0193
28	VHF COMMUNICATIONS				0.0113	0.003	0.0084	0.009	0.0042	0.0039	0.008	0.005	0.007	0.0037	0.0013	0.0064
29	UHF COMMUNICATIONS				0.0416	0.016	0.0321	0.052	0.0174	0.0171	0.029	0.023	0.022	0.0155	0.0129	0.0172
30	INTERPHONE				0.0329	0.006	0.0228	0.006	0.0117	0.0116	0.018	0.016	0.021	0.0184	0.0095	0.0152
31	IFF				0.0390	0.022	0.0211	0.032	0.0079	0.0076	0.004	0.002	0.008	0.0121	0.0114	0.0184
32	EMERGENCY COMMUNICATIONS				0.0065	0.002	0.0110	0.000	0.0117	0.0140	0.008	0.013	0.017	0.0175	0.0175	0.0108
33	MISC. COMMUNICATIONS				0.0009	0.000	0.0009	0.000	0.0001	0.0001	0.001	0.001	0.001	0.0004	0.0003	0.0004
34	RADIO NAVIGATION				0.1191	0.068	0.0864	0.016	0.0614	0.0658	0.080	0.083	0.108	0.0733	0.0800	0.0781
35	EMERGENCY EQUIPMENT				0.2390	0.072	0.1769	0.110	0.1278	0.1374	0.289	0.105	0.203	0.1137	0.1179	0.1551
36	PERSONNEL EQUIPMENT				0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.0000	0.0000
37	EXPLOSIVE DEVICES				0.0000	0.000	0.0000	0.000	0.0000	0.0000	0.000	0.000	0.000	0.0000	0.0003	0.0000
TOTAL					2.9482	1.310	2.3391	1.020	1.2075	1.470	1.540	1.640	2.440	1.9461	1.9728	1.6746

* MONTHLY DATA

TABLE D-9 C-130C ORGANIZATIONAL SYSTEM MAINTENANCE HOURS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	ATER BASE	1180.4	1180.4	1287.6	1082.3	1254.0	1275.2	842.8	735.2	819.2	712.2	1086.6	1144.6	1267.2	1319.8	1196.2
17	COCKPIT AND FUSELAGE	490.3	366.8	277.1	518.2	354.1	342.2	316.2	287.0	281.2	318.0	378.4	545.9	741.1	517.7	375.8
18	LANDING GEAR	1010.4	882.4	575.3	424.3	641.9	685.2	654.2	510.1	522.8	415.9	422.2	432.8	426.7	540.8	560.1
19	FLIGHT CONTROLS	544.7	410.2	344.0	619.6	358.2	436.4	354.1	309.8	308.0	312.8	363.2	916.7	262.0	349.9	408.8
20	TURBO PROP POWER PLANT	1121.0	849.6	947.4	1191.2	881.9	905.3	875.0	714.2	901.6	842.0	732.7	922.3	900.0	848.1	845.2
21	AUXILIARY POWER PLANT	287.7	158.1	182.5	169.1	146.5	181.9	146.5	147.0	117.1	94.0	130.8	161.7	157.3	146.0	133.2
22	HYDRAULIC PROPELLER	107.8	591.6	601.0	632.8	207.3	699.8	690.4	556.9	474.5	437.3	607.4	446.9	481.9	611.4	577.8
23	AIR CONDITIONING, PRESSURIZATION	485.4	374.2	341.9	346.2	284.8	399.7	454.8	271.2	344.5	304.8	340.0	448.5	262.0	303.5	374.0
24	ELECTRICAL POWER SUPPLY	291.3	165.0	234.5	176.1	182.0	191.4	132.8	147.0	128.2	92.9	119.1	257.0	164.1	192.8	187.1
25	LIGHTING SYSTEM	217.5	164.5	119.1	182.7	165.7	170.6	190.5	182.1	148.5	100.7	179.2	202.1	165.2	198.1	152.2
26	HYDRAULIC AND PNEUMATIC	378.3	282.9	232.5	292.0	296.0	301.4	354.6	277.1	270.5	195.1	246.0	352.7	296.4	317.2	279.2
27	FUEL	1434.2	857.0	441.7	635.4	854.3	1418.1	1038.4	886.6	902.0	784.4	1018.5	1324.8	970.6	1215.4	945.2
28	OUTGAS	90.0	61.1	31.5	64.4	42.3	68.1	84.3	59.4	57.4	42.3	86.6	74.8	64.1	42.4	61.8
29	MISC. UTILITIES	179.1	112.1	116.9	117.8	113.3	126.4	85.8	102.2	76.7	68.8	103.2	135.1	119.5	135.1	132.3
30	INSTRUMENTS	784.0	309.8	499.8	351.7	480.3	408.6	152.3	270.1	142.4	137.1	175.7	183.1	154.9	132.0	297.8
31	NAVIGATION	189.2	147.8	105.2	126.6	129.8	189.9	147.3	166.4	134.1	135.5	156.7	178.8	160.2	131.2	148.9
32	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
33	NAVIGATION	142.6	80.3	64.8	86.8	61.6	90.0	71.7	74.8	48.8	49.5	64.3	63.5	49.0	55.6	71.3
34	NAVIGATION	55.8	75.6	27.2	29.3	30.3	32.9	29.5	24.4	25.4	20.5	17.5	21.2	19.7	15.4	25.4
35	NAVIGATION	153.7	93.0	64.8	98.3	218.4	105.5	91.5	84.2	88.8	73.0	82.9	78.1	58.5	41.1	87.8
36	NAVIGATION	43.6	97.3	95.9	127.6	91.0	132.7	103.7	104.3	112.0	91.7	87.8	85.9	64.9	19.7	103.2
37	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
38	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
41	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
43	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
46	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
49	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
51	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
53	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
54	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
56	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
58	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
59	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
61	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
62	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
63	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
64	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
66	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
68	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
69	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
71	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
73	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
74	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
89	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
91	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
93	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
94	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
96	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97	NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS		11415.7	7457.3	7238.5	9025											

TABLE D-10 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL SYSTEM MAINTENANCE MANHOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	18.06	18.7	17.57	20.41	16.12	12.55	10.27	11.20	11.27	12.22	12.25	15.84	17.34	18.00	18.26	16.21
12	COCKPIT AND FUSELAGE	4.19	4.92	3.83	5.74	4.21	4.23	3.97	4.16	4.17	4.04	4.48	5.40	5.57	5.12	5.27	4.81
13	LANDING GEAR	9.38	7.81	7.85	6.92	8.11	7.68	8.27	2.86	7.41	7.46	7.15	6.23	5.53	5.81	5.72	7.18
14	ENGINE CONTROLS	5.12	6.50	4.75	6.86	4.26	4.83	4.63	4.47	4.50	5.32	5.38	5.22	5.80	4.78	5.51	5.21
15	TURBO PROP POWER PLANT	9.71	11.84	11.09	12.20	11.68	10.01	11.19	10.32	10.39	12.83	10.86	10.25	10.35	11.85	11.40	11.35
16	AUXILIARY POWER PLANT	2.52	2.12	2.24	1.87	1.88	2.06	2.13	2.12	2.00	1.91	1.85	1.91	1.81	1.81	1.64	1.97
17	HYDRAULIC PROPPELLER	9.09	9.98	8.30	7.01	6.41	7.43	6.83	6.04	7.63	6.75	7.51	7.40	5.02	6.47	7.10	7.41
18	AIR CONDITIONING, PRESSURIZATION	4.25	5.04	4.72	4.28	3.39	4.42	5.82	5.37	5.30	5.05	5.24	4.96	5.26	4.76	4.38	4.79
19	ELECTRICAL POWER SUPPLY	2.55	2.21	3.29	1.95	2.16	2.12	1.70	2.24	2.14	1.82	1.80	2.03	2.28	1.93	2.26	2.14
20	HEATING SYSTEM	1.91	2.10	1.45	1.80	1.97	1.89	2.44	2.20	2.16	1.80	1.73	2.03	2.28	2.30	2.50	2.48
21	HYDRAULIC AND PNEUMATIC	3.30	3.79	3.21	3.24	3.52	3.37	4.53	4.00	3.93	3.38	3.35	3.80	3.90	2.90	3.50	3.58
22	FUEL	12.60	11.48	6.38	7.04	10.15	15.02	13.25	12.80	13.89	12.80	13.40	14.66	14.87	12.71	1.84	12.12
23	OUTGAS	0.79	0.82	0.44	0.71	0.50	0.75	1.21	0.64	0.82	0.82	0.72	0.81	0.81	0.81	0.81	0.79
24	MISC. UTILITIES	1.57	1.50	1.61	1.31	1.35	1.40	1.10	1.56	1.49	1.09	1.20	1.50	1.56	1.57	1.77	1.44
25	INSTRUMENTS	6.81	4.15	6.50	3.90	5.71	4.52	1.55	3.90	3.50	7.03	2.70	2.56	2.04	2.04	1.74	3.81
26	ADDITIONAL	1.44	1.93	1.45	1.40	1.54	2.10	1.88	2.11	2.20	1.94	2.33	2.28	2.01	2.11	1.73	1.91
27	NAVIGATION AID, & RECORDING EQUIP.	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.01
28	W/ COMMUNICATIONS	1.25	1.08	0.92	0.76	0.73	1.00	0.92	1.08	1.03	0.69	0.85	0.79	0.60	0.64	0.63	0.91
29	W/ COMMUNICATIONS	0.49	0.36	0.38	0.32	0.37	0.36	0.38	0.35	0.31	0.36	0.35	0.26	0.24	0.26	0.16	0.33
30	W/ COMMUNICATIONS	1.35	1.25	0.90	1.09	1.40	1.17	1.22	1.27	1.22	1.24	1.25	1.21	0.86	0.77	0.73	1.13
31	W/ COMMUNICATIONS	0.38	0.77	1.32	1.41	1.08	1.47	1.33	1.51	1.48	1.59	1.61	1.28	0.96	0.88	0.80	1.22
32	INTERPHONE	0.00	0.00	0.54	1.01	0.89	1.09	1.13	0.83	0.77	0.91	0.91	0.28	0.31	0.43	0.39	0.73
33	IFF	0.00	0.00	0.11	0.08	0.04	0.19	0.11	0.41	0.48	0.38	0.79	0.67	0.66	0.63	0.68	0.31
34	FREQUENCY COMMUNICATIONS	0.46	0.14	0.19	0.13	0.24	0.16	0.14	0.12	0.10	0.10	0.12	0.10	0.04	0.04	0.03	0.13
35	MISC. COMMUNICATIONS	1.47	2.79	2.24	2.09	3.09	2.27	3.11	3.21	3.37	3.22	3.55	2.95	2.60	3.09	2.99	2.64
36	RADIO NAVIGATION	2.93	4.81	5.04	4.49	5.20	4.98	6.84	7.17	7.57	9.58	7.80	4.92	5.87	6.74	6.35	5.86
37	RAILWAY NAVIGATION	1.05	0.84	0.88	0.75	0.61	0.82	0.95	0.84	0.79	0.65	0.60	0.59	0.67	0.58	0.56	0.76
38	EMERGENCY EQUIPMENT	0.00	0.00	0.11	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.02
39	PERSONNEL EQUIPMENT	0.01	0.02	0.02	0.02	0.02	0.02	0.17	0.04	0.04	0.07	0.05	0.05	0.05	0.04	0.05	0.05
40	EXPLOSIVE DEVICES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE D-11 C-130E ORGANIZATIONAL SYSTEM MAINTENANCE HANDBOOKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME	7.9772	8.5	2.6411	1.6	1.661	1.5049	1.4451	1.5049	1.9	1.9	2.0	2.0	4.5	3.6549	5.1249	3.0083
12	COCKPIT AND FUSELAGE	2.2838	1.5	1.1060	0.6	0.6124	0.8548	0.6	0.8548	0.6	0.6	0.6	0.6	1.1	1.1114	1.2281	0.8982
13	ENGINEERING DEPT	2.7032	2.8	1.9802	1.2	1.0287	0.9946	1.2	1.0287	1.2	1.2	1.2	1.1	1.4	1.2033	1.2821	1.1542
14	ENGINE CONTROLS	2.4829	1.5	1.2812	0.7	0.8955	0.6010	0.7	0.8955	0.9	0.9	0.9	0.9	1.5	1.0208	1.0181	1.0601
22	GROUND SUPPORT POWER PLANT	5.1579	4.0	2.6162	1.7	1.3508	1.3965	1.7	1.3508	2.0	2.0	1.8	1.8	2.7	2.5403	2.5751	2.3532
24	AUXILIARY POWER PLANT	0.7322	0.7	0.8344	0.3	0.2778	0.2652	0.3	0.2778	0.3	0.3	0.3	0.3	0.5	0.4154	0.3713	0.4010
26	HYDRAULIC POWER SUPPLY	2.7400	2.9	1.9935	1.3	1.0525	1.0189	1.3	1.0525	1.0	1.0	1.2	1.2	1.3	1.2072	1.4021	1.1411
41	AIR CONDITIONING, PRESSURIZATION	1.4722	1.2	1.1551	0.9	0.7075	0.7071	0.9	0.7075	0.9	0.9	0.9	0.9	1.4	1.0208	0.9891	0.9987
42	ELECTRICAL POWER SUPPLY	0.7625	0.7	0.5521	0.3	0.2935	0.2852	0.3	0.2935	0.3	0.3	0.3	0.3	0.5	0.4628	0.4971	0.4709
44	EXHAUST SYSTEM	0.2045	0.7	0.4930	0.4	0.2875	0.2881	0.4	0.2875	0.3	0.3	0.3	0.3	0.6	0.4095	0.5111	0.4332
45	HYDRAULIC AND PNEUMATIC	1.2844	1.2	0.8797	0.7	0.2227	0.2548	0.7	0.2227	0.5	0.5	0.5	0.5	1.0	0.3758	0.4081	0.3592
46	FUEL	2.7513	3.5	4.1850	2.0	1.6757	1.8537	2.0	1.6757	2.0	2.2	2.2	2.6	2.9	2.7371	3.1357	2.4099
47	IGNITION	0.2789	0.2	0.1968	0.2	0.1123	0.1114	0.2	0.1123	0.2	0.2	0.1	0.1	0.2	0.1808	0.2126	0.1724
48	INSTRUMENTS	0.5105	0.5	0.3653	0.2	0.2076	0.1992	0.2	0.2076	0.2	0.2	0.2	0.3	0.4	0.3170	0.4002	0.2883
51	INSTRUMENTS	1.5229	2.0	1.1809	0.3	0.5109	0.4675	0.3	0.5109	0.3	0.3	0.4	0.5	0.5	0.4360	0.3942	0.4136
52	INSTRUMENTS	0.5482	0.5	0.3488	0.3	0.2767	0.2939	0.3	0.2767	0.3	0.3	0.4	0.4	0.5	0.4518	0.3901	0.3934
53	INSTRUMENTS	0.0500	-	0.0000	-	0.0000	0.0000	-	0.0000	-	-	-	-	-	0.0037	0.0072	-
54	INSTRUMENTS	0.3158	0.3	0.2601	0.2	0.1414	0.1379	0.2	0.1414	0.1	0.1	0.1	0.1	0.2	0.1362	0.1414	0.1856
61	INSTRUMENTS	0.1269	0.1	0.0951	0.1	0.0461	0.0437	0.1	0.0461	0.1	0.1	0.1	-	0.2	0.0556	0.0408	0.0775
62	INSTRUMENTS	0.4256	0.9	0.3049	0.2	0.1663	0.1633	0.2	0.1663	0.2	0.2	0.2	0.2	0.2	0.1650	0.1654	0.2184
63	INSTRUMENTS	0.5525	0.4	0.3835	0.2	0.1971	0.1971	0.2	0.1971	0.2	0.2	0.2	0.2	0.2	0.1887	0.1798	0.2687
64	INSTRUMENTS	0.3949	0.3	0.2858	0.2	0.1089	0.1022	0.2	0.1089	0.2	0.3	0.1	0.1	0.1	0.0928	0.0802	0.1719
65	INSTRUMENTS	0.0303	-	0.0509	-	0.0537	0.0640	-	0.0537	0.1	0.1	0.1	0.1	0.2	0.1351	0.1551	0.0677
66	INSTRUMENTS	0.0507	0.1	0.0107	-	0.0159	0.0136	-	0.0159	0.1	0.1	0.1	-	-	0.0093	0.0077	0.0210
69	INSTRUMENTS	0.6158	1.1	0.5922	0.5	0.4203	0.4503	0.5	0.4203	0.5	0.5	0.5	0.5	0.7	0.6616	0.6747	0.5982
71	RADIO NAVIGATION	1.7548	1.8	1.3005	1.0	0.9393	1.0100	1.0	0.9393	1.5	1.5	1.3	0.9	1.5	1.4338	1.4347	1.2315
72	RADIO NAVIGATION	0.2923	0.2	0.2150	0.1	0.1096	0.1055	0.1	0.1096	0.1	0.1	0.1	0.1	0.2	0.1210	0.1253	0.1434
91	EMERGENCY EQUIPMENT	0.0009	-	0.0006	-	0.0006	0.0006	-	0.0006	-	-	-	-	-	0.0006	-	0.0003
96	PERSONNEL EQUIPMENT	0.0074	-	0.0064	-	0.0064	0.0064	-	0.0064	-	-	-	-	-	0.0076	0.0108	0.0034
97	EXPLOSIVE DEVICES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTALS		38.4515	24.6	26.1261	15.2	13.0939	13.3455	15.2	13.0939	15.8	15.8	16.4	17.5	26.0	21.4307	22.5942	20.8212

* NORMALIZED DATA

TABLE D-12 C-130E INTERMEDIATE SYSTEM MAINTENANCE HOURS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	231.1	184.6	170.4	247.7	192.3	164.2	94.2	104.3	104.3	112.7	129.8	105.2	140.2	144.0	144.1	140.0
12	COCKPIT AND FUSelage	124.7	93.2	70.6	131.8	104.1	97.3	78.8	73.0	73.0	67.0	71.7	131.8	71.0	86.4	216.9	95.3
21	LANDING GEAR	1325.6	182.6	180.4	195.7	296.3	214.8	288.8	120.7	159.9	158.4	170.4	128.0	32.6	104.1	128.0	175.6
22	FLIGHT CONTROLS	85.2	59.8	50.2	90.4	358.4	62.6	41.4	45.2	45.2	42.1	41.2	60.2	52.5	37.2	28.7	59.6
23	THIRD PROP POWER PLANT	748.4	590.4	443.2	808.8	612.4	614.7	641.8	485.3	485.3	613.8	646.0	491.8	646.7	555.3	743.1	601.2
24	AUXILIARY POWER PLANT	76.3	41.9	42.1	14.5	119.7	42.1	31.1	39.0	34.2	27.6	13.3	35.9	42.0	32.0	45.3	40.8
32	HYDRAULIC POWER	602.2	345.2	348.8	347.2	471.4	400.2	415.3	323.1	301.8	318.2	278.5	307.3	272.9	223.8	318.2	315.3
41	AIR CONDITIONING, PRESSURIZATION	52.6	40.8	37.0	41.8	81.7	43.3	63.2	40.3	29.5	65.6	41.6	31.9	25.4	23.6	35.4	40.5
42	ELECTRICAL POWER SUPPLY	128.7	71.0	105.4	77.9	109.1	84.8	104.4	88.7	65.0	54.0	39.3	63.8	53.0	57.2	91.5	71.9
51	LIGHTING SYSTEM	28.5	20.5	15.6	21.3	16.7	22.4	28.2	19.9	19.5	24.6	19.8	22.1	20.2	12.8	13.9	20.2
52	INTERNAI AND EXTERNAI	78.7	59.1	48.6	81.0	57.8	51.6	104.4	37.4	54.5	97.6	50.0	43.6	54.6	32.0	34.6	46.6
65	FUEL	21.8	11.0	7.0	9.6	16.3	21.9	19.1	13.4	14.5	14.7	13.2	10.6	15.6	14.6	14.6	14.3
66	OXYGEN	19.0	12.9	6.7	13.6	7.0	14.4	42.8	12.6	12.1	30.4	13.6	6.9	8.2	5.8	7.4	12.6
67	MISC. UTILITIES	21.4	13.4	14.0	14.1	18.3	15.1	26.4	12.8	12.3	12.8	9.8	11.2	12.2	10.3	12.8	13.4
68	INSTRUMENTS	708.0	42.2	132.6	91.3	216.4	108.4	67.3	71.7	64.0	34.1	34.5	37.7	42.5	37.3	34.2	78.0
52	AUTOPILLOT	106.8	81.2	59.4	71.4	164.3	107.1	112.0	82.6	85.9	99.0	71.4	90.2	84.3	71.8	64.0	84.0
55	NAVIGATION AIDS & RECORDING EQUIP.	0.0	00.0	0.0	0.0	0.1	0.0	0.3	0.0	0.0	-	-	-	-	0.4	0.6	0.1
61	HF COMMUNICATIONS	166.4	91.7	78.0	101.9	241.4	105.0	92.2	97.2	83.9	46.1	39.0	36.9	57.4	73.4	60.4	83.1
62	VHF COMMUNICATIONS	64.2	30.9	31.3	31.7	52.9	37.9	36.0	28.1	26.0	23.3	11.2	16.9	23.2	30.5	23.8	29.7
63	UHF COMMUNICATIONS	251.3	157.0	106.0	160.7	52.6	172.5	211.1	144.0	137.8	147.9	111.5	116.0	133.1	142.5	151.8	143.6
64	INTERPHONE	12.4	19.2	27.3	36.4	117.4	37.8	35.4	29.7	26.9	22.0	15.8	22.9	20.3	18.9	19.3	29.6
65	INTERPHONE	0.0	0.0	36.9	84.3	167.1	91.6	97.2	51.4	49.8	79.2	16.5	10.1	16.7	18.1	35.3	63.7
66	INTER-AREA COMMUNICATIONS	0.0	0.0	8.8	6.2	19.2	11.0	27.4	21.0	24.5	28.3	24.5	32.3	37.2	34.5	81.5	19.0
67	MISC. COMMUNICATIONS	9.6	3.2	4.4	3.7	3.5	4.5	2.6	2.7	2.3	0.4	1.3	0.4	0.4	0.6	0.4	2.7
71	RADIO NAVIGATION	160.8	189.2	160.8	186.6	283.8	203.1	238.3	220.5	229.3	260.6	187.8	140.0	212.1	246.4	299.1	204.1
72	RADIO NAVIGATION	305.2	326.6	332.4	349.5	414.2	410.0	519.2	453.0	471.4	592.0	385.5	265.8	434.8	625.6	643.7	416.5
91	ENGINE OIL EQUIPMENT	35.8	20.8	21.1	22.5	0.4	24.8	26.3	19.3	18.1	16.0	11.2	22.6	9.8	18.9	2.4	19.6
96	PERSONNEL EQUIPMENT	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	-	-	-	-	-
97	EXPLOSIVE DEVICES	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	-	-	-	-	-
TOTALS		3498.8	2679.5	2736.8	3294.3	4607.0	3187.4	3391.2	2600.4	2452.5	3008.4	2281.2	2282.8	3166.9	2556.0	3272.3	2041.8

* NORMAL 7270 DATA

TABLE D-13 C-130E PERCENT DISTRIBUTION OF INTERMEDIATE SYSTEM MAINTENANCE HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	WING	6.93	6.77	6.23	2.61	12.08	5.17	2.84	2.82	2.92	2.91	3.65	5.36	5.17	5.63	5.01	5.61
12	COCKPIT AND FUELAGE	3.20	3.48	2.66	4.00	2.26	3.05	2.36	2.72	2.72	2.82	2.21	5.21	2.77	2.77	2.28	3.32
13	LANDING GEAR	8.41	6.81	6.59	5.94	6.43	6.74	8.82	6.27	6.03	5.27	7.81	5.61	3.61	4.07	3.54	6.13
14	FLIGHT CONTROLS	2.19	2.23	1.83	2.74	7.78	2.00	1.22	1.62	1.70	1.43	1.91	2.80	2.00	1.31	1.15	2.08
22	TURBO PROP POWER PLANT	19.71	22.03	23.50	24.54	12.29	19.29	16.57	12.11	18.30	20.40	19.53	21.54	25.93	1.72	22.71	20.95
24	AUXILIARY POWER PLANT	1.96	1.56	1.57	1.36	2.00	1.54	1.01	1.48	1.38	0.71	0.85	1.77	1.54	1.29	1.24	1.42
32	HYDRAULIC PROPPELLER	15.45	12.88	12.74	11.14	10.23	12.56	12.25	12.05	11.49	11.24	12.19	13.46	1.77	8.76	9.72	11.70
41	AIR CONDITIONING, PRESSURIZATION	1.35	1.52	1.35	1.27	1.77	1.36	1.06	1.50	1.49	2.18	1.25	1.40	0.5	1.12	1.04	1.41
42	ELECTRICAL POWER SUPPLY	3.30	2.72	2.85	2.36	2.37	2.65	3.08	2.54	2.45	1.79	1.72	2.79	2.06	22.23	2.88	2.64
44	LIGHTING SYSTEM	0.73	0.77	0.57	0.45	0.36	0.70	0.83	0.74	0.74	0.82	0.87	0.97	0.79	0.50	0.41	0.71
45	HYDRAULIC AND PNEUMATIC	2.02	2.21	1.78	1.85	1.17	2.00	3.08	2.16	2.12	2.91	2.19	1.81	2.13	1.25	1.05	1.98
46	FUEL	0.56	0.49	0.26	0.29	0.35	0.49	1.15	0.50	0.55	0.49	0.58	0.46	0.41	0.57	0.41	0.50
47	OXYGEN	0.49	0.48	0.24	0.41	0.15	0.45	1.28	0.47	0.46	1.01	0.60	0.30	0.32	0.23	0.21	0.41
51	MISC. UTILITIES	0.55	0.50	0.51	0.43	0.10	0.47	0.78	0.48	0.46	0.43	0.43	0.49	0.52	0.40	0.31	0.47
52	WATER	5.33	3.07	4.85	2.83	4.70	3.40	1.28	2.07	2.41	1.27	1.51	1.65	1.68	1.46	1.23	2.76
53	WATER	2.74	3.03	2.17	2.17	4.00	3.36	3.30	2.08	3.22	3.29	3.13	3.95	3.36	3.36	2.81	2.83
54	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00
55	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
81	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
82	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
99	WATER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE D-14 C-130E INTERMEDIATE SYSTEM MAINTENANCE MANHOURS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				1.0725	2.4	0.4760	0.2	0.1971	0.2023	0.2	0.4	0.4	0.4	0.4224	0.4061	0.5556
12	COCKPIT AND FUSELAGE				0.8707	0.4	0.2812	0.2	0.1200	0.1316	0.2	0.2	0.4	0.2	0.5573	0.2436	0.2340
13	LANDING GEAR				0.8476	1.2	0.8208	0.6	0.3276	0.3102	0.4	0.5	0.3	0.3	0.3328	0.2736	0.5221
14	FLIGHT CONTROLS				0.2914	1.5	0.1838	0.1	0.0454	0.0427	0.1	0.1	0.1	0.2	0.0938	0.0956	0.2376
15	TURBO PROP POWER PLANT				3.5021	2.5	1.7765	1.1	0.9172	0.9116	1.3	1.2	1.3	1.9	1.2172	1.5654	1.5676
16	AUXILIARY POWER PLANT				0.1944	0.5	0.1419	0.1	0.0737	0.0704	0.1	0.1	0.1	0.1	0.1169	0.0931	0.1416
17	HYDRAULIC PROPPELLER				1.5900	1.9	1.1566	0.8	0.4107	0.3913	0.7	0.6	0.8	0.7	0.8210	0.6311	0.9252
18	AIR CONDITIONING, PRESSURIZATION				0.1810	0.3	0.1251	0.1	0.0762	0.0766	0.1	0.1	0.1	0.1	0.0913	0.0407	0.1196
19	ELECTRICAL POWER SUPPLY				0.3372	0.6	0.2445	0.2	0.1298	0.1261	0.1	0.1	0.2	0.2	0.2361	0.1613	0.2090
20	LIGHTING SYSTEM				0.0922	0.1	0.0447	0.1	0.0376	0.0378	0.1	0.1	0.1	0.1	0.0490	0.0402	0.0753
21	HYDRAULIC AND PNEUMATIC				0.2641	0.2	0.1838	0.2	0.1094	0.1096	0.2	0.1	0.1	0.2	0.0890	0.0902	0.1583
22	FUEL				0.0416	0.1	0.0633	0.1	0.0253	0.0281	-	-	-	-	0.0277	0.0409	0.0421
23	OXYGEN				0.0589	-	0.0416	0.1	0.0238	0.0235	0.1	-	-	-	0.0191	0.0184	0.0307
24	MISC. UTILITIES				0.0611	0.1	0.0436	0.1	0.0242	0.0239	-	-	-	-	0.0125	0.0285	0.0401
25	INSTRUMENTS				0.4040	0.9	0.3133	0.1	0.1356	0.1242	0.1	0.1	0.1	0.1	0.1031	0.1052	0.2229
26	AUTOPILOT				0.2092	0.8	0.2095	0.2	0.1561	0.1569	0.2	0.2	0.2	0.3	0.1651	0.2025	0.2682
27	NAVIGATION AID, & RECORDING EQUIP.				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0015	0.0011	-
28	HF COMMUNICATIONS				0.1387	1.0	0.3074	0.2	0.1648	0.1608	0.1	0.1	0.1	0.2	0.2074	0.2070	0.2700
29	VHF COMMUNICATIONS				0.1459	0.2	0.1095	0.1	0.0531	0.0504	0.1	0.1	-	0.1	0.0606	0.0660	0.0936
30	UHF COMMUNICATIONS				0.4958	0.2	0.4985	0.4	0.2722	0.2671	0.3	0.3	0.3	0.4	0.2916	0.4018	0.3610
31	INTERCOM				0.1578	0.8	0.1092	0.1	0.0541	0.0541	0.1	0.1	0.1	0.1	0.0503	0.0525	0.1265
32	IFF				0.3137	0.7	0.2765	0.2	0.1028	0.0966	0.2	-	-	-	0.0668	0.0510	0.1972
33	EMERGENCY COMMUNICATIONS				0.0225	0.1	0.0376	0.1	0.0397	0.0475	0.1	0.1	0.1	0.1	0.1139	0.0973	0.0772
34	MISC. COMMUNICATIONS				0.0160	-	0.0130	-	0.0051	0.0045	-	-	-	-	0.0010	0.0017	0.0037
35	RADIO NAVIGATION				0.0000	1.2	0.5870	0.5	0.4167	0.4460	0.6	0.5	0.4	0.6	0.7732	0.5948	0.6110
36	RADIO NAVIGATION				1.5989	1.7	1.1849	1.0	0.8562	0.9203	1.3	1.1	0.7	1.3	1.4607	1.4822	1.1897
37	EMERGENCY EQUIPMENT				0.0874	-	0.0717	0.1	0.0345	0.0351	-	-	-	-	0.0191	0.3470	0.0133
38	PERSONAL EQUIPMENT				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	-	-	-
39	EXPLOSIVE DEVICES				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	-	0.2003	-
40	TOTALS				14.2729	18.65	9.2115	7.0	6.0658	6.1457	6.8	6.3	6.0	7.7	8.4123	7.1080	8.3541

* NORMALIZED DATA

TABLE D-15 C-130E INTERMEDIATE BENCH CHECK SYSTEM MAINTENANCE HOURS PER 1000 FLIGHT HOURS

STS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	167.9	112.4	122.6	100.0	434.41	119.7	63.24	76.72	76.8	96.77	109.07	131.62	21.22	125.1	162.93	115.2
12	COCKPIT AND FUSELAGE	90.7	67.8	91.3	95.9	96.22	70.8	62.06	53.1	53.1	48.06	52.24	121.43	28.40	50.0	116.34	69.4
13	LANDING GEAR	228.4	124.3	122.8	133.2	256.63	146.2	193.07	116.2	104.8	127.06	152.03	91.06	29.77	49.2	10.22	118.6
14	FLIGHT CONTROLS	73.6	91.6	43.3	78.0	250.00	54.9	31.54	29.0	28.8	35.15	26.01	45.17	33.43	31.5	16.00	51.4
22	TURBO PROP POWER PLANT	152.1	116.0	127.3	140.1	103.93	121.6	210.41	95.0	95.0	240.06	152.76	81.00	19.60	60.2	16.00	119.0
24	AUXILIARY POWER PLANT	23.1	12.7	13.0	13.6	59.57	14.8	15.96	11.8	11.9	11.32	7.54	6.99	10.95	7.2	8.01	12.6
32	HYDRAULIC PROPPELLER	370.0	212.6	212.6	226.1	193.39	246.4	187.05	189.2	187.2	205.00	190.90	230.25	57.93	190.0	216.37	206.5
41	AIR CONDITIONING, PRESSURIZATION	44.6	34.6	31.4	36.5	50.29	36.0	52.14	34.2	31.5	59.04	20.07	29.97	16.02	25.2	19.10	34.4
42	ELECTRICAL POWER SUPPLY	99.5	66.4	81.5	60.2	37.37	65.4	64.97	53.1	53.2	46.31	31.06	59.77	20.73	50.0	66.60	57.1
43	IGNITION SYSTEM	24.7	17.0	13.5	10.5	11.16	19.4	20.33	17.2	16.9	22.30	17.01	20.15	19.12	10.6	11.91	17.1
45	HYDRAULIC AND PNEUMATIC	59.2	41.5	24.6	45.9	29.53	47.9	67.61	43.5	42.5	72.01	20.91	36.20	27.66	20.6	30.64	42.6
46	FUEL	19.6	11.7	6.3	8.6	16.06	19.7	34.62	12.1	13.1	13.69	11.20	9.00	13.19	13.6	13.56	12.3
47	OXYGEN	10.4	12.5	6.5	13.2	6.72	10.0	34.06	12.2	11.7	25.32	13.01	6.69	13.77	6.7	7.24	12.2
49	MISC. UTILITIES	10.1	11.4	11.9	12.0	14.72	12.0	10.22	10.9	10.4	9.70	7.33	9.67	15.54	9.0	10.62	11.4
51	INSTRUMENTS	174.5	69.0	111.3	70.3	107.90	91.0	63.69	60.2	53.7	36.52	32.00	34.53	16.42	33.7	36.41	66.3
52	AUTOTEST	75.9	57.7	42.2	60.8	149.37	76.1	90.35	60.9	60.9	72.54	55.99	67.62	24.10	56.4	14.20	60.0
55	FUNCTIONAL APP. & RECORDING EQUIP.	83.1	46.0	30.9	50.5	122.00	62.4	32.20	43.5	41.4	29.20	29.90	21.02	17.10	32.0	37.74	41.5
61	HF COMMUNICATIONS	30.2	18.4	10.6	20.1	30.76	22.6	23.93	16.7	15.5	13.67	11.09	10.28	14.00	15.0	12.06	17.0
62	VHF COMMUNICATIONS	123.0	74.4	61.9	70.6	167.00	84.4	110.13	20.5	67.4	95.04	66.28	64.35	16.70	60.4	64.10	70.3
63	UHF COMMUNICATIONS	9.1	16.1	20.1	26.7	116.26	27.0	29.36	21.0	21.2	17.20	13.36	17.34	7.91	13.3	13.36	21.7
64	INTERPHONE	-	-	26.3	61.6	153.07	64.0	59.79	30.0	35.6	56.06	11.25	6.06	13.02	10.3	12.60	30.4
65	IFF	-	-	3.2	2.9	7.25	7.1	7.03	11.5	13.5	11.71	17.00	10.34	10.34	19.3	14.96	10.5
66	EMERGENCY COMMUNICATIONS	-	-	1.5	1.5	2.70	1.0	2.30	1.1	0.9	0.55	0.67	0.36	10.71	0.2	0.41	1.7
69	MISC. COMMUNICATIONS	3.9	1.3	1.0	1.5	246.45	107.7	146.00	112.6	117.4	106.64	120.61	60.61	10.47	107.3	135.72	104.2
71	RADIO NAVIGATION	82.1	66.4	82.1	95.3	246.45	107.7	146.00	112.6	117.4	106.64	120.61	60.61	10.47	107.3	135.72	104.2
72	RAIDAR NAVIGATION	170.4	102.4	106.6	206.3	366.19	220.9	343.26	253.0	264.0	436.37	252.97	186.00	19.55	252.4	332.32	232.4
91	EMERGENCY EQUIPMENT	6.2	2.7	2.7	2.9	0.43	3.2	3.04	2.5	2.4	1.32	0.50	0.31	6.24	3.0	-	2.5
92	PISTOL EQUIPMENT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
97	EXPLOSIVE DEVICES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL		2164.2	1440.1	1440.7	1766.2	3320.00	1756.3	1978.41	1467.2	1444.5	1974.42	1467.66	1376.38	524.62	1202.4	1679.52	1550.6

* NORMALIZED DATA

TABLE D-16 C-130E PERCENT DISTRIBUTION OF INTERMEDIATE BENCH CHECK SYSTEM MAINTENANCE HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	7.29	7.80	8.42	10.25	12.04	6.81	3.70	5.18	5.35	5.89	5.99	9.53	5.04	9.72	8.81	2.54
12	COCKPIT AND INSTRUMENTS	5.21	4.21	3.49	5.46	2.85	4.03	3.54	3.62	3.69	2.93	3.62	6.82	6.18	4.51	9.25	4.47
13	LANDING GEAR	10.39	8.43	8.28	7.58	8.00	8.32	8.82	7.22	7.53	6.46	10.50	6.69	5.48	3.42	2.22	2.71
14	ENGINE	3.41	3.58	2.95	4.44	10.51	3.12	1.40	2.65	4.70	1.78	2.61	3.28	6.37	2.45	2.11	3.32
15	FLIGHT CONTROLS	7.05	8.11	8.67	9.11	5.52	6.93	10.65	5.55	5.55	12.19	10.44	5.95	3.75	4.68	3.93	2.67
22	TURBO PROP POWER PLANT	1.07	0.88	0.89	0.77	1.79	0.84	0.81	0.80	0.78	0.57	0.52	0.51	2.09	0.56	0.48	0.81
24	AUXILIARY POWER PLANT	17.19	14.76	16.62	12.87	5.81	14.03	9.51	13.55	12.99	10.48	13.10	15.29	11.04	13.20	17.65	13.32
25	HYDRAULIC POWER PLANT	2.07	2.41	2.14	2.02	1.51	2.09	2.64	2.23	2.32	2.04	2.69	2.11	2.67	1.96	1.74	2.22
31	AIR CONDITIONING, FUEL SYSTEMIZATION	4.41	3.92	5.55	3.43	3.12	3.72	2.78	3.62	3.48	2.35	2.13	4.35	5.86	3.95	5.16	3.64
42	ILLUMINATION	1.35	1.23	0.92	1.05	0.34	1.11	1.03	1.18	1.17	1.13	1.17	1.47	3.64	0.42	0.71	1.12
44	LIGHTING SYSTEM	2.75	3.09	2.40	2.61	1.19	2.73	3.42	2.97	2.94	3.65	2.74	2.57	5.27	2.22	1.82	2.75
45	HYDRAULIC AND PNEUMATIC	0.81	0.81	0.40	0.49	0.48	1.12	1.75	0.82	0.90	0.69	0.77	0.71	2.51	1.06	0.81	0.83
46	FUEL	0.65	0.87	0.44	0.75	0.20	0.79	1.76	0.83	0.81	1.23	0.89	0.48	2.62	0.41	0.43	0.79
47	ENGINE	0.01	0.19	0.81	0.68	0.44	0.73	0.92	0.74	0.72	0.47	0.50	0.70	2.96	0.70	0.40	0.73
49	MISC. UTILITIES	8.09	4.79	7.58	4.48	5.64	5.18	3.22	4.10	3.72	1.80	2.76	2.51	3.13	2.62	2.11	4.27
51	INSTRUMENTS	3.52	4.01	2.88	2.89	5.08	4.34	4.57	4.15	4.21	3.72	3.64	4.92	4.61	4.18	3.23	3.87
52	AUTOTEST														0.03	0.03	0.00
55	BALTIMORE HAD - 8 RECORDING EQUIP.	3.85	3.25	2.65	2.88	3.66	2.98	1.63	2.97	2.85	1.48	1.43	1.53	2.28	2.49	2.25	2.68
61	W. CO. INSTRUMENTS	1.77	1.20	1.27	1.14	0.92	1.28	1.21	1.14	1.07	0.68	0.79	0.75	2.84	1.24	0.71	1.14
62	W. CO. INSTRUMENTS	5.70	5.17	3.53	4.48	5.04	4.81	5.98	4.40	4.67	4.85	3.84	4.87	3.20	4.94	3.82	4.57
63	W. CO. INSTRUMENTS	0.42	0.98	1.37	1.57	3.49	1.58	1.49	1.49	1.47	0.88	0.92	1.26	1.51	1.03	0.80	1.40
64	INTERFEROMETER																
65	INTERFEROMETER																
66	INTERFEROMETER																
69	MISC. COMMUNICATIONS	0.18	0.09	0.12	0.09	0.08	0.10	0.12	0.07	0.07	0.03	1.17	1.33	3.50	1.50	2.08	0.68
71	MISC. COMMUNICATIONS	3.01	6.00	5.59	5.43	7.40	5.90	7.42	7.67	8.13	9.45	8.27	6.44	3.52	6.33	7.49	6.72
72	AUDIO NAVIGATION	7.90	12.86	12.64	11.75	10.95	11.04	17.38	17.24	18.34	22.13	18.04	13.58	3.73	22.71	9.82	14.99
91	EMERGENCY EQUIPMENT	0.24	0.19	0.19	0.17	0.01	0.18	0.15	0.17	0.16	0.07	0.03	0.02	1.21	0.23	0.39	0.16
96	PERSONNEL EQUIPMENT																
97	EXPOSURE DEVICES																
	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE D-17 C-130E INTERMEDIATE BENCH CHECK SYSTEM MAINTENANCE MANHOURS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	10/2	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				0.7794	1.2054	0.3459	0.1195	0.1028	0.1470	0.2118	0.2786	0.2300	0.0618	0.3328	0.2019	0.4512
12	CONCEPT AND FUSILLAGE				0.4152	0.2015	0.1120	0.1004	0.1020	0.1020	0.1052	0.1466	0.1132	0.0941	0.1126	0.4054	0.2000
13	LANDING GEAR				0.8767	1.0914	0.4225	0.2666	0.2106	0.2111	0.2724	0.4754	0.2372	0.0837	0.1927	0.1259	0.3590
14	FLIGHT CONTROLS				0.3377	1.4182	0.1504	0.0586	0.0221	0.0257	0.0270	0.1057	0.1165	0.0972	0.0888	0.0956	0.2309
21	TURBO PROP POWER PLANT				0.6931	0.7460	0.3516	0.3977	0.1815	0.1863	0.2270	0.4231	0.2113	0.0572	0.1696	0.1795	0.3601
22	AUXILIARY POWER PLANT				0.0508	0.2410	0.0429	0.0302	0.0223	0.0214	0.0248	0.0210	0.0180	0.0319	0.0202	0.0204	0.0401
24	HYDRAULIC POWER PLANT				0.9790	0.7948	0.7121	0.3550	0.2760	0.2641	0.4531	0.1309	0.5424	0.1806	0.4794	0.7647	0.5302
32	HYDRAULIC POWER PLANT				0.1526	0.2021	0.1062	0.0985	0.0647	0.0650	0.1314	0.1086	0.0747	0.0408	0.0711	0.0712	0.1024
41	AIR CONDITIONING, PRESSURIZATION				0.2608	0.1526	0.1090	0.1039	0.1004	0.0975	0.1014	0.0862	0.1548	0.0891	0.1423	0.2217	0.1364
42	ELECTRICAL POWER SUPPLY				0.0799	0.4459	0.0561	0.0344	0.0326	0.0328	0.0490	0.0472	0.0520	0.0554	0.0299	0.0719	0.0450
44	LIGHTING SYSTEM				0.1948	0.1625	0.1278	0.1278	0.0824	0.0825	0.1577	0.1109	0.0913	0.0805	0.0804	0.0719	0.1100
45	HYDRAULIC AND PNEUMATIC				0.0371	0.0277	0.0402	0.0659	0.0221	0.0228	0.0555	0.0362	0.0172	0.0401	0.0161	0.0116	0.0372
46	FUEL				0.0518	0.0605	0.0370	0.0344	0.0205	0.202	0.0201	0.0204	0.0249	0.0482	0.0254	0.0248	0.0319
47	ENGINE				0.3390	0.7723	0.2629	0.1204	0.1137	0.1012	0.0778	0.0914	0.0491	0.0478	0.0950	0.0913	0.1928
49	INSURANCE				0.2198	0.0961	0.2201	0.1708	0.1190	0.1179	0.1611	0.1557	0.1745	0.0704	0.1590	0.1401	0.2063
52	AUTOPLOT														0.0011	0.0015	0.0001
55	INSTRUMENTATION, A RECORDING EQUIP.				0.2148	0.5014	0.1515	0.0610	0.0827	0.0403	0.0639	0.0581	0.0542	0.0500	0.0902	0.0913	0.1284
61	IF COMMUNICATIONS				0.0668	0.1264	0.0652	0.0432	0.0316	0.0300	0.0299	0.0319	0.0265	0.0433	0.0451	0.0313	0.0601
62	VHF COMMUNICATIONS				0.3408	0.4897	0.2140	0.2233	0.1322	0.1308	0.2099	0.1565	0.1658	0.0488	0.1647	0.1644	0.2318
63	IAF COMMUNICATIONS				0.1158	0.4778	0.0803	0.0555	0.0412	0.0412	0.0381	0.0371	0.0447	0.0220	0.0375	0.0316	0.0903
64	INTERCOM				0.2667	0.4324	0.1921	0.1130	0.0724	0.0690	0.1245	0.0313	0.0177	0.0402	0.0290	0.0318	0.1875
65	IFF				0.0124	0.0298	0.0207	0.0133	0.0218	0.0281	0.0254	0.0475	0.0472	0.0518	0.0514	0.0921	0.0316
66	FREQUENCY COMMUNICATIONS				0.0045	0.0111	0.0053	0.0015	0.0021	0.0018	0.0012	0.0019	0.0009	0.0312	0.0006	0.0010	0.0050
69	HISE, CORRELATION				0.4126	1.0129	0.2997	0.2771	0.2128	0.2777	0.4087	0.2252	0.2286	0.0517	0.2026	0.2212	0.3482
71	RADIO NAVIGATION				0.8934	1.5050	0.6616	0.6488	0.4781	0.5139	0.9567	0.7311	0.4819	0.0659	0.0246	0.0519	0.6833
72	RADAR NAVIGATION				0.0126	0.0078	0.0092	0.0067	0.0047	0.0046	0.0029	0.0016	0.0006	0.0144	0.0085	0.0055	0.0055
91	EMERGENCY EQUIPMENT													0.0047	0.0047	0.0118	0.0011
96	PEN-ANALOG EQUIPMENT														0.0000		0.0000
97	EXPLOSIVE DEVICES																
	TOTALS				7.6044	12.6896	5.0750	3.7336	2.7720	8.8024	4.3240	4.8822	3.6406	1.6266	3.6206	4.3314	4.7758

* NORMALIZED DATA

TABLE D-18 C-130E ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE TASKS PER 1000 FLIGHT HOURS

SYST NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	AS WEAR AVERAGE
11	AIRFRAME	86.8	125.0	185.0	206.0	459.0	286.0	264.0	267.0	407.0	408.0	322.0	431.4	497.0	649.2	643.5	233.6
12	ENGINE AND FUELAGE	364.0	335.0	264.0	214.0	286.0	284.0	168.1	255.0	255.0	165.2	108.4	326.5	262.4	256.2	252.0	244.8
13	LANDING GEAR	122.0	190.0	220.0	261.0	331.2	266.0	218.0	236.0	234.0	121.0	162.1	206.2	248.2	218.2	216.5	236.1
14	FLIGHT CONTROLS	104.0	108.0	132.0	117.0	155.6	126.0	112.0	126.0	140.0	139.0	114.9	159.0	232.7	148.9	132.4	136.4
15	ENGINE PROPS	392.0	427.0	607.0	670.0	793.6	680.0	478.1	870.0	877.0	504.5	240.5	467.4	612.7	606.2	600.4	619.5
16	HYDRAULIC POWER PLANT	32.2	41.7	47.0	49.0	76.4	52.2	52.2	57.5	59.5	66.2	42.2	66.2	55.5	82.9	71.9	51.2
17	HYDRAULIC POWER PLANT	297.0	273.0	228.0	193.0	213.4	186.0	204.0	221.0	223.0	177.0	155.4	255.9	260.1	243.1	201.1	218.7
18	HYDRAULIC POWER PLANT	81.0	72.0	81.0	90.0	137.0	108.0	122.4	125.0	132.0	127.4	126.0	156.0	250.5	182.5	181.2	124.7
19	ELECTRICAL POWER SUPPLY	57.0	61.0	78.6	93.0	115.7	94.5	76.6	81.5	80.5	151.0	48.2	62.2	91.4	86.6	97.8	84.2
20	ELECTRICAL POWER SUPPLY	55.0	62.0	69.5	76.0	163.6	91.0	122.5	105.5	113.0	109.0	77.1	112.0	218.4	132.2	147.0	103.2
21	HYDRAULIC AND THERMATIC	31.0	38.0	56.0	93.0	148.1	108.0	131.2	122.0	130.0	136.0	96.9	124.2	232.8	167.2	181.2	170.4
22	FUEL	359.0	316.0	216.0	139.0	99.5	126.0	160.0	200.0	204.0	152.4	153.2	298.1	261.1	213.2	261.0	153.4
23	ENGINE	19.0	20.7	22.5	24.3	32.1	28.0	34.2	31.5	33.2	31.2	20.6	20.6	48.6	42.2	51.5	30.0
24	MISC. UTILITIES	19.0	22.7	26.0	29.2	76.4	37.0	46.5	42.0	47.5	46.0	37.7	55.4	89.6	67.6	74.9	43.6
25	MISC. UTILITIES	60.0	14.0	106.0	177.0	240.2	190.0	74.0	121.0	115.0	77.3	76.1	93.2	121.6	95.0	100.1	124.1
26	INSTRUMENTS	23.0	24.7	25.7	26.7	91.1	79.0	82.2	81.2	82.3	77.7	71.6	77.2	100.0	97.2	91.6	80.8
27	INSTRUMENTS	-	-	-	-	-	-	0.5	0.5	0.6	0.0	-	-	-	0.6	1.2	0.3
28	INSTRUMENTS	15.2	17.0	18.0	20.5	45.1	24.0	41.1	27.4	29.1	26.1	24.0	29.1	30.9	29.5	45.5	24.9
29	INSTRUMENTS	15.4	16.4	16.4	16.4	27.7	15.4	17.2	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4
30	INSTRUMENTS	45.5	60.5	61.7	70.5	76.0	72.0	65.2	62.5	62.7	48.0	47.4	69.0	74.1	55.0	60.0	63.2
31	INSTRUMENTS	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7
32	INSTRUMENTS	18.5	23.0	31.5	41.5	64.7	43.0	59.2	35.2	34.5	48.0	45.6	53.1	69.2	54.6	67.0	64.2
33	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
34	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
35	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
36	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
37	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
38	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
39	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
40	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
41	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
42	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
43	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
44	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
45	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
46	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
47	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
48	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
49	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
50	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
51	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
52	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
53	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
54	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
55	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
56	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
57	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
58	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
59	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
60	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
61	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
62	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
63	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
64	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
65	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
66	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
67	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
68	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
69	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
70	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
71	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
72	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
73	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
74	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
75	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
76	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
77	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
78	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
79	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
80	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
81	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
82	INSTRUMENTS	17.7	19.5	21.8	24.0	23.9	28.5	20.3	33.2	35.5	28.2	23.0	47.2	79.0	55.9	55.5	33.4
83	INSTRUMENTS	17.7	19.5	2													

TABLE D-19 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE TASKS

SYR	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	2.43	4.43	5.51	6.54	10.2	8.82	11.0	10.49	11.42	12.3	12.2	12.7	12.1	16.13	15.3	10.00
12	ENGINE AND FUSELAGE	11.28	11.82	8.88	8.82	6.3	6.28	5.3	7.37	7.27	5.9	7.3	9.1	6.9	6.17	7.9	7.27
13	LANDING GEAR	5.99	5.25	2.68	0.32	2.3	0.15	2.1	6.82	6.82	8.8	6.3	6.7	5.5	5.46	5.1	5.00
14	FLIGHT CONTROLS	5.22	2.84	3.22	3.22	2.7	2.65	2.5	2.83	2.93	4.2	4.4	4.4	4.7	4.07	3.4	2.99
15	TURBO PROP POWER PLANT	15.92	15.20	16.92	10.17	15.7	17.78	14.0	15.62	15.81	15.2	12.9	12.0	11.8	12.28	11.2	15.18
16	HYDRAULIC POWER PLANT	1.78	1.52	1.52	1.54	1.7	1.43	1.5	1.54	1.62	1.4	1.6	1.6	1.6	2.00	2.0	1.07
17	HYDRAULIC PROPPELLER	11.06	9.72	2.61	0.13	7.0	5.79	6.4	6.28	6.76	6.4	7.0	7.1	4.9	5.48	6.8	6.39
18	AIR CONDITIONING, PRESUMIZATION	2.60	2.64	3.23	2.87	2.1	2.21	4.0	2.61	2.73	2.5	4.8	4.3	1.7	2.04	4.2	3.44
19	ELECTRICAL POWER SUPPLY	2.15	2.17	2.42	2.97	2.6	2.90	2.4	2.78	2.76	3.3	1.8	1.7	1.7	2.04	2.1	2.46
20	LIGHTING SYSTEM	2.23	2.23	2.32	2.42	3.6	2.79	3.0	3.06	3.17	2.3	2.9	3.1	4.2	3.21	3.3	3.02
21	HYDRAULIC AND PNEUMATIC	2.88	2.78	2.87	2.87	2.0	2.21	4.1	2.92	2.65	4.1	3.0	3.7	4.4	4.03	3.7	3.52
22	HEAT	14.54	11.25	7.21	4.43	2.2	2.04	5.0	5.78	5.78	4.6	6.8	8.2	6.7	6.18	6.9	6.71
23	OTHER	0.77	0.74	0.75	0.72	0.7	0.66	1.1	0.81	0.93	0.9	0.8	0.9	0.9	1.02	1.2	0.86
24	HYDRO UTILITIES	0.77	0.81	0.87	0.95	1.7	1.13	1.4	1.27	1.23	1.4	1.4	1.5	1.7	1.63	1.7	1.27
25	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
26	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
27	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
28	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
29	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
30	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
31	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
32	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
33	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
34	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
35	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
36	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
37	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
38	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
39	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
40	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
41	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
42	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
43	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
44	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
45	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
46	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
47	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
48	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
49	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
50	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
51	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
52	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
53	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
54	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
55	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
56	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
57	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
58	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
59	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
60	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
61	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
62	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
63	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
64	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
65	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
66	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
67	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
68	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
69	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
70	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
71	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
72	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
73	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
74	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
75	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
76	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
77	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
78	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
79	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
80	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
81	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
82	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
83	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
84	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
85	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.63
86	INSTRUMENTS	0.60	0.60	2.14	5.44	6.7	5.82	2.3	2.49	2.23	2.3	2.9	2.6	2.3	2.29	2.2	3.

TABLE D-20 C-130E ORGANIZATIONAL AND INTERMEDIATE MAINTENANCE TASKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	ALTERNATE				0.0077	1.5	0.0323	0.7	0.6936	0.7896	0.9	0.9	1.3	2.6	1.0006	1.7591	1.1251
12	CORRECTION AND EUSILLAGE				0.0266	1.2	0.0096	0.3	0.4819	0.5025	0.4	0.5	0.8	1.1	0.7228	0.8192	0.6945
13	LANDING GEAR				1.3301	1.3	0.7687	0.4	0.4660	0.4640	0.4	0.5	0.5	0.8	0.8799	0.8945	0.8359
14	ENGINE CONTROLS				0.5066	0.7	0.3641	0.2	0.2370	0.2716	0.3	0.3	0.4	0.7	0.4763	0.3958	0.3754
22	TURBO PROP POWER PLANT				2.4681	2.9	1.6762	0.9	0.9826	1.0030	1.1	0.9	1.2	1.8	1.4289	1.2910	1.4603
24	AUXILIARY POWER PLANT				0.2132	0.3	0.1637	0.1	0.1047	0.1154	0.1	0.1	0.2	0.3	0.2338	0.2059	0.1624
32	HYDRAULIC PROPELLER				0.8357	1.3	0.5715	0.4	0.4177	0.4328	0.4	0.5	0.7	0.8	0.6865	0.7072	0.6115
51	AIR CONDITIONING, PRESERVATION				0.3897	0.6	0.3121	0.2	0.2362	0.2580	0.3	0.4	0.4	0.7	0.5158	0.4884	0.3227
52	ELECTRICAL POWER SUPPLY				0.4037	0.6	0.2731	0.2	0.1940	0.1562	0.3	0.1	0.2	0.3	0.2442	0.2394	0.2509
53	HEATING SYSTEM				0.3291	0.7	0.2630	0.2	0.1914	0.2192	0.2	0.2	0.3	0.6	0.3759	0.3793	0.3072
54	HYDRAULIC AND PNEUMATIC				0.4037	0.7	0.3121	0.3	0.2362	0.2572	0.3	0.3	0.4	0.7	0.4715	0.4265	0.3730
55	FUEL				0.6019	0.4	0.3641	0.3	0.3786	0.3956	0.3	0.4	0.8	1.8	0.6026	0.6754	0.4821
57	ENGINE				0.1052	0.1	0.0809	0.1	0.0595	0.0644	0.1	0.1	0.1	0.1	0.1193	0.1409	0.0931
59	MISC. UTILITIES				0.1266	0.3	0.1069	0.1	0.0828	0.0921	0.1	0.1	0.1	0.3	0.1902	0.1932	0.1774
61	INSTRUMENTS				0.7461	1.2	0.5491	0.1	0.2287	0.2231	0.2	0.2	0.2	0.4	0.2679	0.2683	0.3746
62	PILOT				0.3321	0.4	0.2283	0.2	0.1535	0.1397	0.2	0.2	0.2	0.3	0.2741	0.2363	0.2317
63	NAVIGATION				0.0008	0.2	0.0694	0.1	0.0518	0.0012	0.1	0.1	0.1	0.1	0.0017	0.0016	0.0005
64	NAVIGATION AID, A RECORDING EQUIP.				0.0467	0.1	0.0445	0.1	0.0291	0.0566	0.1	0.1	0.1	0.1	0.1114	0.1182	0.0965
65	NAV COMMUNICATIONS				0.3053	0.3	0.2081	0.1	0.1200	0.1216	0.1	0.1	0.2	0.2	0.1574	0.1548	0.1651
66	NAV COMMUNICATIONS				0.2542	0.3	0.1696	0.1	0.1109	0.1139	0.1	0.1	0.1	0.2	0.1596	0.1471	0.1492
67	INTERPHONE				0.1797	0.3	0.1243	0.1	0.0665	0.0669	0.1	0.1	0.1	0.1	0.0778	0.0748	0.1035
68	EMERGENCY COMMUNICATIONS				0.1039	0.1	0.0824	0.1	0.0627	0.0689	0.1	0.1	0.1	0.2	0.1576	0.1432	0.0872
69	MISC. COMMUNICATIONS				0.0163	0.2	0.0339	0.1	0.0180	0.0173	0.1	0.1	0.1	0.1	0.0220	0.0167	0.0370
71	RADIO NAVIGATION				1.0089	0.8	0.6965	0.3	0.3418	0.3467	0.3	0.4	0.3	0.6	0.5668	0.5725	0.4996
72	TARGET NAVIGATION				0.9314	1.4	0.4705	0.6	0.5166	0.6163	0.6	0.7	0.6	1.3	1.1974	1.2167	0.8005
91	EMERGENCY EQUIPMENT				0.1559	0.7	0.1087	0.1	0.0563	0.0555	0.1	0.5	0.1	0.1	0.0629	0.0557	0.1264
94	PERSONNEL EQUIPMENT				0.0039	0.1	0.0029	0.1	0.0009	0.0010	0.1	0.1	0.1	0.1	0.0023	0.0010	0.0009
97	EXPLOSIVE DEVICES				0.0074	1	0.0046	0.1	0.0012	0.0013	0.1	0.1	0.1	0.1	0.0051	0.0047	0.0025
TOTALS					13.5408	18.4	9.4270	6.1	6.5423	6.9132	2.3	2.7	9.3	15.4	11.7095	11.5243	9.6319

* NORMALIZED DATA

TABLE D-21 C-130E ORGANIZATIONAL TASKS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1970*	1971	1972	1973	1974	1975	1976	10 YEAR AVERAGE
11	AIRFRAME	81.8	129.2	150.2	127.2	421.4	277.1	329.0	251.0	395.0	304.9	470.1	874.7	640.2	662.1	340.2
12	COCKPIT AND FUSELAGE	319.2	293.0	233.3	107.2	181.6	178.9	124.6	223.6	196.2	150.3	222.0	331.6	221.7	276.9	212.2
13	LANDING GEAR	122.6	141.9	171.0	195.0	270.3	190.7	140.6	176.3	156.7	125.1	160.0	224.2	166.0	160.4	176.4
14	FLIGHT CONTROLS	99.3	103.1	107.9	111.2	155.0	120.3	101.1	129.9	129.6	109.1	162.6	241.5	153.3	147.6	129.2
22	TURBO PROP POWER PLANT	293.6	319.8	379.2	426.9	555.2	434.4	316.5	300.5	243.6	246.0	347.5	499.4	386.9	346.4	300.0
24	AUXILIARY POWER PLANT	36.0	29.2	41.3	42.0	62.2	46.7	41.1	60.5	40.2	29.1	64.2	85.3	73.4	69.6	60.2
32	HYDRAULIC POWER	230.4	216.4	179.0	182.3	245.4	166.0	140.6	174.4	175.9	114.0	203.2	217.4	206.0	237.6	172.6
41	AIR CONDITIONING, PRESSURIZATION	56.9	64.0	72.0	80.8	100.3	94.0	104.8	111.1	107.9	111.2	137.0	231.7	164.4	169.0	140.0
42	ELECTRICAL POWER SUPPLY	61.7	61.4	66.2	78.4	66.1	79.7	50.6	68.7	67.9	39.8	51.1	78.8	75.1	74.4	71.0
44	LIGHTING SYSTEM	52.0	59.6	66.7	72.9	166.3	97.3	115.2	101.2	162.2	72.0	106.7	213.4	129.4	142.4	97.0
45	HYDRAULIC AND PNEUMATIC	64.6	71.0	78.3	84.6	140.6	94.3	100.7	110.3	113.2	87.4	123.7	216.6	150.3	156.7	109.6
46	FUEL	346.1	304.6	200.2	134.0	93.0	121.6	107.9	192.0	145.1	147.0	281.0	330.6	204.9	253.0	180.4
47	ENGINE	16.4	17.8	19.4	21.0	26.6	24.1	26.2	30.4	25.6	17.0	26.0	42.5	37.0	49.1	26.2
49	UTILITIES	37.4	20.8	23.0	27.2	68.2	33.9	37.3	40.1	43.5	41.2	61.2	93.8	63.0	69.6	39.9
51	INSTRUMENTS	0.0	11.3	85.5	142.0	223.4	153.3	52.0	97.6	56.6	59.2	70.3	91.6	72.9	76.6	100.1
52	PILOT	53.0	53.6	54.3	55.1	64.4	56.7	53.7	54.3	51.5	52.8	54.0	71.9	72.9	69.8	60.0
53	INSTRUMENTS, RECORDING EQUIP.	0.0	-	-	-	-	-	-	0.6	-	-	-	-	0.4	0.8	0.2
61	RF COMMUNICATIONS	11.3	12.6	13.9	15.2	30.8	17.0	25.2	20.3	21.6	19.0	23.1	22.9	28.9	34.2	19.9
62	VHF COMMUNICATIONS	11.0	11.0	11.0	11.0	10.1	11.0	11.0	11.0	12.0	8.8	8.7	13.2	12.5	10.4	11.0
63	UHF COMMUNICATIONS	30.4	33.7	47.1	47.0	54.6	48.0	30.0	42.4	40.0	39.6	40.6	49.4	36.3	39.0	42.2
64	INTERPHONE	49.8	49.8	49.8	49.8	71.0	49.0	46.5	49.8	52.5	36.2	49.0	50.5	47.9	49.6	49.4
65	IFF	13.2	16.5	24.0	29.7	44.4	30.8	35.0	35.2	31.6	9.0	10.3	10.8	22.0	22.6	24.2
66	EMERGENCY COMMUNICATIONS	9.9	10.9	12.2	13.4	5.0	16.0	3.9	18.6	13.6	16.9	21.2	50.3	20.2	33.6	18.7
69	MISC. COMMUNICATIONS	14.3	8.1	6.2	8.6	42.4	9.4	10.2	7.6	6.4	-	10.3	9.0	7.6	5.6	6.2
71	RADIO NAVIGATION	66.2	85.8	132.3	109.4	130.9	175.2	94.1	140.3	100.6	92.4	80.1	141.2	186.4	170.6	130.2
72	RADIO NAVIGATION	0.0	160.3	174.4	156.1	220.1	116.2	101.2	206.5	260.6	194.6	171.6	308.6	307.0	316.4	193.1
91	EMERGENCY EQUIPMENT	11.4	15.4	24.4	31.6	60.7	33.0	26.9	26.1	15.6	14.0	20.7	35.3	17.9	19.6	26.9
96	PERSONNEL EQUIPMENT	0.0	0.0	0.4	0.9	0.9	1.0	0.2	0.5	0.1	0.1	0.1	0.1	0.0	0.4	0.6
97	EXPLOSIVE DEVICES	3.3	3.0	2.3	1.7	2.4	1.6	4.9	2.7	2.4	2.3	2.2	4.5	3.7	2.6	3.2
TOTALS		2003.5	2314.5	2493.0	2542.2	3401.4	2443.6	2374.2	2859.5	2666.1	2157.0	2958.2	4951.0	2632.4	3742.2	2018.7

* NORMALIZED DATA

TABLE D-22 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL TASKS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	10/2	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	3.06	5.19	6.50	7.76	12.04	10.40	13.85	12.34	13.22	14.82	14.11	11.89	19.17	18.45	17.82	12.28
12	COCKPIT AND FUELAGE	15.47	12.69	9.56	7.38	5.47	6.72	5.25	7.82	7.21	5.07	7.24	7.50	7.27	6.31	7.40	7.54
13	LANDING GEAR	6.23	6.13	7.04	7.67	6.28	7.46	6.26	6.17	5.22	5.06	5.06	5.24	4.91	4.79	4.82	6.26
14	FLIGHT CONTROLS	4.81	4.45	4.32	4.29	4.43	4.52	4.25	4.54	4.55	4.46	5.06	5.15	5.29	4.55	3.24	4.62
22	TURBO PROP POWER PLANT	14.23	13.82	15.54	16.79	16.06	16.31	12.79	12.82	12.14	12.99	11.26	11.25	10.95	11.02	10.20	13.82
24	AUXILIARY POWER PLANT	1.84	1.49	1.49	1.49	1.78	1.75	1.73	1.77	1.72	1.51	1.81	1.90	1.87	2.09	1.86	1.78
32	HYDRAULIC PROPELLER	11.12	9.31	7.37	8.99	7.01	8.51	8.92	6.10	5.92	4.28	6.28	6.87	4.77	5.46	6.08	6.13
41	AIR CONDITIONING, PRESSURIZATION	2.76	2.77	2.95	3.15	3.09	3.60	4.40	3.89	4.01	4.05	5.16	4.66	6.04	4.88	4.32	3.34
42	ELECTRICAL POWER SUPPLY	2.17	2.22	2.71	3.08	2.52	2.99	2.13	2.40	2.20	5.24	1.85	1.72	1.73	2.14	1.99	2.52
44	LIGHTING SYSTEM	2.54	2.57	2.73	2.87	4.46	3.28	4.85	3.84	3.68	3.83	3.34	3.61	4.48	3.68	3.81	3.47
45	HYDRAULIC AND PNEUMATIC	2.13	2.07	3.21	3.23	4.24	2.69	4.58	3.88	4.02	4.25	4.05	4.18	4.75	4.51	4.17	3.89
46	FUEL	16.77	13.16	8.53	5.27	2.68	4.54	6.23	6.74	6.74	5.41	6.43	9.84	7.18	5.33	6.76	6.69
47	OXYGEN	0.79	0.71	0.79	0.83	0.76	0.90	1.10	1.06	0.92	0.96	0.79	0.90	0.93	1.04	1.21	0.93
49	MISC. UTILITIES	0.84	0.90	0.98	1.07	1.95	1.27	1.56	1.40	1.48	1.55	1.59	1.72	1.94	1.78	1.86	1.42
51	INSTRUMENTS	0.00	0.49	3.60	5.62	6.38	5.76	2.22	3.41	3.15	2.12	2.74	2.38	2.01	2.08	2.04	3.56
52	ALCOPILOT	2.57	2.32	2.22	2.17	1.84	2.13	2.26	2.01	2.01	1.93	2.45	1.83	1.58	2.04	1.86	2.04
53	FUNCTIONAL MAP, & RECORDING EQUIP.	0.00	-	-	-	-	-	0.02	0.02	0.02	-	-	-	-	0.01	0.02	0.01
61	HF COMMUNICATIONS	0.55	0.51	0.57	0.60	0.87	0.47	1.06	0.71	0.71	0.31	0.46	0.78	0.53	0.82	0.91	0.71
62	VHF COMMUNICATIONS	0.53	0.48	0.45	0.43	0.52	0.41	0.46	0.38	0.37	0.45	0.41	0.29	0.29	0.36	0.28	0.39
63	UHF COMMUNICATIONS	1.47	1.46	1.48	1.96	1.56	1.80	1.60	1.48	1.42	1.50	1.37	1.38	1.08	1.01	1.04	1.50
64	INTERPHONE	2.41	2.15	2.04	1.96	2.05	1.87	1.56	1.74	1.69	1.97	1.82	1.51	1.28	1.26	1.32	1.75
65	IFF	0.44	0.71	0.98	1.17	1.27	1.16	1.47	0.68	0.81	1.19	0.42	0.36	0.41	0.63	0.60	0.66
66	EMERGENCY COMMUNICATIONS	0.48	0.47	0.58	0.53	0.17	0.60	0.16	0.55	0.48	0.51	0.38	0.82	1.10	0.80	0.90	0.66
69	MISC. COMMUNICATIONS	0.59	0.35	0.34	0.34	1.21	0.35	0.43	0.27	0.24	0.24	-	0.35	0.20	0.22	0.15	0.29
71	RADIO NAVIGATION	3.21	3.71	5.42	6.46	3.74	6.58	3.96	4.91	4.66	4.07	4.28	2.21	3.10	4.42	4.56	4.94
72	RADAR NAVIGATION	0.00	7.79	7.14	6.04	6.29	4.34	7.63	7.22	7.70	9.77	8.57	6.80	6.76	8.78	8.96	6.86
91	EMERGENCY EQUIPMENT	0.55	0.67	1.00	1.26	1.45	1.24	1.13	0.91	0.85	0.73	0.45	0.70	0.77	0.51	0.49	0.92
96	PERSONNEL EQUIPMENT	0.90	0.00	0.02	0.04	0.03	0.04	0.01	0.02	0.02	0.00	0.00	0.00	0.00	0.02	0.01	0.02
97	EXPLOSIVE DEVICES	0.16	0.13	0.09	0.07	0.07	0.06	0.21	0.08	0.07	0.09	0.11	0.07	0.10	0.05	0.07	0.08
TOTALS		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* MANUALIZED DATA

TABLE D-23 C-130C ORGANIZATIONAL TASKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				0.0529	1.7	0.0008	0.6	0.6472	0.7895	0.9	0.9	1.3	2.6	1.8279	1.7092	1.0872
12	COCKPIT AND FUSelage				0.0127	0.8	0.0129	0.2	0.0226	0.4006	0.1	0.4	0.6	1.0	0.6252	0.2141	0.3166
13	LANDING GEAR				0.0414	0.9	0.0742	0.3	0.3332	0.3391	0.2	0.2	0.4	0.7	0.4794	0.4138	0.4529
14	FLIGHT CONTROLS				0.0827	0.6	0.3127	0.2	0.2455	0.2594	0.3	0.3	0.4	0.7	0.4606	0.3808	0.3588
22	TURBO PROP POWER PLANT				1.4495	2.3	1.2554	0.6	0.7342	0.7512	0.9	0.7	0.9	1.5	1.0911	0.9941	1.0717
24	AUXILIARY POWER PLANT				0.1842	0.3	0.1350	0.1	0.0954	0.1013	0.1	0.1	0.2	0.2	0.2070	0.1796	0.1482
32	HYDRAULIC PROPELLER				0.0595	1.0	0.0243	0.3	0.3296	0.3412	0.1	0.4	0.6	0.6	0.5809	0.6646	0.4765
41	AIR CONDITIONING, PRESSURIZATION				0.3464	0.6	0.2274	0.2	0.2100	0.2293	0.2	0.2	0.4	0.7	0.4936	0.4360	0.2192
42	ELECTRICAL POWER SUPPLY				0.2395	0.4	0.2203	0.1	0.1288	0.1317	0.2	0.1	0.1	0.2	0.2118	0.1920	0.1986
44	LIGHTING SYSTEM				0.3167	0.6	0.2523	0.2	0.1913	0.2103	0.2	0.2	0.2	0.6	0.3649	0.3874	0.2920
45	TEMPERATURE AND HUMIDITY				0.3643	0.6	0.2941	0.2	0.2098	0.2295	0.3	0.2	0.4	0.6	0.4164	0.4027	0.3257
46	FUEL				0.0402	0.4	0.2511	0.3	0.3644	0.3853	0.2	0.6	0.8	1.0	0.5778	0.4527	0.4519
47	ENGINE				0.0909	0.1	0.0496	0.1	0.0575	0.0555	0.1	0.1	0.1	0.1	0.1046	0.1257	0.0884
49	MISC. UTILITIES				0.1178	0.3	0.0900	0.1	0.0718	0.0849	0.1	0.1	0.1	0.2	0.1777	0.1793	0.1279
51	INSTRUMENTS				0.0183	0.9	0.4430	0.1	0.1845	0.1800	0.1	0.2	0.2	0.3	0.2066	0.1794	0.2956
52	AUTOPILLOT				0.2366	0.3	0.1539	0.1	0.1102	0.1147	0.1	0.2	0.1	0.2	0.2056	0.1793	0.1542
53	NAVIGATION AID, & RECORDING EQUIP.								0.0011	0.0012	0.1				0.0011	0.0021	0.0004
54	IF COMMUNICATIONS				0.0459	0.1	0.0514	0.1	0.0386	0.0419	0.1	0.1	0.1	0.1	0.0415	0.0482	0.0778
55	VHF COMMUNICATIONS				0.0478	0.1	0.0318		0.0208	0.0273					0.0353	0.0268	0.0236
56	UHF COMMUNICATIONS				0.2035	0.2	0.1307	0.1	0.0801	0.0811	0.1	0.1	0.1	0.1	0.1026	0.1006	0.1161
57	INTERPHONE				0.2154	0.3	0.1439	0.1	0.0941	0.0944	0.1	0.1	0.1	0.2	0.1351	0.1277	0.1378
58	IFF				0.1266	0.2	0.0890	0.1	0.0476	0.0479	0.1			0.1	0.0420	0.0583	0.0813
59	EMERGENCY COMMUNICATIONS				0.0500		0.0401		0.0352	0.0356		0.1	0.1	0.2	0.0795	0.0867	0.0483
60	MISC. COMMUNICATIONS				0.0372	0.2	0.0272		0.0144	0.0134					0.0218	0.0144	0.0246
71	RADIO NAVIGATION				0.3335	0.6	0.5063	0.2	0.2652	0.2666	0.2	0.3	0.2	0.4	0.4382	0.4401	0.3519
72	RADAR NAVIGATION				0.6673	0.9	0.3358	0.3	0.3903	0.4022	0.6	0.5	0.4	0.9	0.8680	0.8653	0.5449
91	EMERGENCY EQUIPMENT				6.7348	0.2	0.0914	0.1	0.0493	0.0487				0.1	0.0505	0.0477	0.0784
95	PERSONNEL EQUIPMENT				0.0079		0.0029		0.0099	0.0010					0.0037	0.0010	0.0010
97	EXPLOSIVE DEVICES				0.0076	0.1	0.0046		0.0042	0.0043					0.0048	0.0067	0.0116
	TOTALS				31.0077	14.6	7.6975	6.7	5.4646	5.7168	5.9	6.1	7.6	13.3	9.8069	9.6531	7.6748

* UNNORMALIZED DATA

TABLE D-24 C-130E ORGANIZATIONAL REMOVAL TASKS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	1977
11	AIRFRAME	8.2	12.2	16.1	20.0	24.0	28.1	32.0	36.0	39.2	42.6	46.0	49.5	53.0	56.5	60.0	63.5
12	CREW AND PASSENGER	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2
13	LANDING GEAR	32.0	35.4	38.8	42.2	45.6	49.0	52.4	55.8	59.2	62.6	66.0	69.4	72.8	76.2	79.6	83.0
14	FLIGHT CONTROLS	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
22	TURBO PROP POWER PLANT	64.0	71.2	78.4	85.6	92.8	100.0	107.2	114.4	121.6	128.8	136.0	143.2	150.4	157.6	164.8	172.0
24	AUXILIARY POWER PLANT	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
26	HYDRAULIC PROPULSION	82.6	88.8	95.0	101.2	107.4	113.6	119.8	126.0	132.2	138.4	144.6	150.8	157.0	163.2	169.4	175.6
41	AIR CONDITIONING, PRESSURIZATION	12.0	14.4	16.8	19.2	21.6	24.0	26.4	28.8	31.2	33.6	36.0	38.4	40.8	43.2	45.6	48.0
42	ELECTRICAL POWER SUPPLY	9.6	11.2	12.8	14.4	16.0	17.6	19.2	20.8	22.4	24.0	25.6	27.2	28.8	30.4	32.0	33.6
44	LIGHTING SYSTEM	9.6	10.4	11.2	12.0	12.8	13.6	14.4	15.2	16.0	16.8	17.6	18.4	19.2	20.0	20.8	21.6
45	HYDRAULIC AND PNEUMATIC	9.6	10.4	11.2	12.0	12.8	13.6	14.4	15.2	16.0	16.8	17.6	18.4	19.2	20.0	20.8	21.6
46	FUEL	11.2	12.8	14.4	16.0	17.6	19.2	20.8	22.4	24.0	25.6	27.2	28.8	30.4	32.0	33.6	35.2
47	OXYGEN	3.6	4.0	4.4	4.8	5.2	5.6	6.0	6.4	6.8	7.2	7.6	8.0	8.4	8.8	9.2	9.6
49	MISC. UTILITIES	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
51	INSTRUMENTS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52	ANALOG	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
55	INTERCOM, PAIR, & RECORDING EQUIP.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	WIR. COMMUNICATIONS	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
62	WIR. COMMUNICATIONS	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
63	WIR. COMMUNICATIONS	10.6	11.2	11.8	12.4	13.0	13.6	14.2	14.8	15.4	16.0	16.6	17.2	17.8	18.4	19.0	19.6
64	WIR. COMMUNICATIONS	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
65	WIR. COMMUNICATIONS	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
66	WIR. COMMUNICATIONS	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
67	WIR. COMMUNICATIONS	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
68	WIR. COMMUNICATIONS	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6
71	RADIO NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72	RADIO NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
91	RESEARCH EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92	RESEARCH EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97	EXPLOSIVE DEVICES	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
TOTALS		489.8	528.9	574.9	622.0	672.0	722.0	772.0	822.0	872.0	922.0	972.0	1022.0	1072.0	1122.0	1172.0	1222.0

* NORMALIZED DATA

TABLE D-25 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL REMOVAL TASKS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	1.00	2.28	2.90	3.32	5.8	4.58	6.0	5.55	6.02	5.1	6.2	8.9	9.4	9.39	9.8	8.87
12	COCKPIT AND INSTRUMENTS	10.28	8.43	6.24	4.79	2.6	4.49	2.6	5.23	5.21	2.5	4.4	4.6	5.7	5.41	6.2	5.13
13	LANDING GEAR	6.56	5.61	7.44	8.04	8.8	9.81	9.7	8.80	6.59	2.1	2.2	6.2	4.8	5.64	5.3	6.29
14	FLIGHT CONTROLS	2.12	1.32	1.46	1.46	2.2	1.95	1.9	2.01	2.03	2.7	2.5	2.0	2.3	2.10	2.1	2.04
22	ENGINE POWER PLANT	19.33	13.42	14.81	15.92	17.6	15.49	16.2	13.67	12.19	15.4	12.0	11.5	10.8	9.83	9.5	12.26
24	AUXILIARY POWER PLANT	1.29	1.23	1.20	1.19	1.0	1.27	1.6	1.30	1.32	1.3	1.5	1.4	1.4	1.77	1.4	1.32
32	HYDRAULIC PROPELLER	13.61	10.82	8.51	6.87	5.2	6.48	6.9	7.38	7.25	6.0	7.2	2.5	6.2	6.60	9.9	7.38
41	AIR CONDITIONING, PRESSURIZATION	2.78	2.69	2.82	2.89	3.8	3.53	4.1	3.87	4.03	4.5	4.8	4.8	5.2	6.20	5.0	5.02
42	ELECTRICAL POWER SUPPLY	2.15	2.13	2.54	2.89	3.2	2.96	2.5	2.26	2.27	2.7	1.9	1.4	1.6	1.59	1.5	2.47
44	LIGHTING SYSTEM	2.02	1.96	2.05	2.19	2.0	2.50	2.2	2.27	2.90	3.4	2.5	2.7	3.0	3.46	4.0	2.72
45	HYDRAULIC AND PNEUMATIC	2.07	1.94	2.00	2.06	2.0	2.34	3.0	2.53	2.64	3.6	3.0	2.8	2.9	2.96	2.0	2.63
46	FUEL	18.20	13.73	8.75	3.37	2.5	4.77	6.0	7.22	7.28	3.3	5.3	14.8	9.7	5.86	6.1	7.16
47	OXYGEN	0.83	0.77	0.78	0.81	0.8	0.91	1.2	1.10	1.02	0.9	0.9	1.0	1.0	1.12	1.5	0.96
49	MISC. UTILITIES	0.57	0.58	0.61	0.66	1.5	0.81	1.1	0.91	0.97	1.0	1.2	1.1	1.2	1.19	1.3	0.93
53	INSTRUMENTS	0.00	0.65	4.66	7.41	7.9	7.79	3.0	4.73	4.40	3.3	4.0	3.2	3.0	3.00	2.8	4.92
52	AUTOPILOT	3.20	3.21	3.03	2.94	2.1	2.96	3.2	2.94	2.88	3.1	3.4	2.4	2.5	3.07	2.7	2.94
55	INSTRUMENTATION, JIBS, & RECORDING EQUIP.	-	-	-	-	0.0	-	0.0	0.05	0.06	0.0	-	-	-	0.01	0.0	0.02
61	NAV COMMUNICATIONS	0.76	0.73	0.75	0.78	1.0	0.99	1.3	0.94	1.02	1.0	1.2	1.0	1.0	1.29	1.4	0.94
62	NAV COMMUNICATIONS	0.78	0.67	0.63	0.60	0.8	0.68	0.6	0.55	0.55	0.6	0.6	0.4	0.5	0.62	0.5	0.57
63	NAV COMMUNICATIONS	2.30	2.18	2.49	2.70	1.9	2.71	2.0	2.28	2.20	2.3	2.0	2.1	1.9	1.87	1.7	2.31
64	NAV COMMUNICATIONS	3.63	3.12	2.90	2.77	2.1	2.71	1.5	2.59	2.53	2.4	2.5	2.1	2.5	2.72	2.5	2.61
65	IFF	1.04	1.12	1.53	1.81	2.1	1.84	2.6	1.43	1.36	2.2	0.7	0.7	0.7	0.81	0.7	1.40
66	NAV COMMUNICATIONS	0.96	0.90	0.94	0.98	0.0	1.16	0.4	1.27	1.33	0.9	1.3	1.4	2.6	2.10	1.6	1.29
69	MISC. COMMUNICATIONS	0.85	0.32	0.30	0.30	0.5	0.32	0.5	0.23	0.23	0.3	0.3	0.2	0.2	0.14	0.1	0.27
71	RADIO NAVIGATION	4.74	5.26	7.57	9.22	5.7	9.35	6.0	7.14	4.84	6.0	6.7	4.7	5.4	6.04	6.3	7.19
72	RADIO NAVIGATION	0.00	11.31	10.19	8.59	9.2	6.33	11.2	10.78	11.55	16.2	12.3	9.2	11.6	14.15	13.6	10.21
91	NAVIGATION EQUIPMENT	1.30	1.53	2.24	2.77	3.7	2.66	2.6	2.14	2.02	2.0	2.0	1.8	2.0	1.19	1.2	2.23
96	PERSONAL EQUIPMENT	0.00	0.00	0.00	0.00	0.0	0.00	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0	0.00
97	EXPLOSIVE DEVICES	0.52	0.41	0.30	0.22	0.2	0.19	0.2	0.25	0.24	0.3	0.4	0.3	0.4	0.20	0.3	0.27
-	TOTALS	100.00	100.00	100.00	100.00	100.0	100.00	100.0	100.00	100.00	100.0	100.0	100.0	100.0	100.0	100.0	100.00

* ROUNDED DATA

TABLE D-26 C-130E ORGANIZATIONAL REMOVAL TASKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				0.0046	.22	0.0012	.08	0.0477	0.0270	.05	.09	.15	.22	0.1870	0.1903	0.1124
12	COCKPIT AND FUSelage				0.1251	.14	0.0286	.05	0.0450	0.0429	.03	.06	.08	.15	0.1077	0.1262	0.0476
13	LANDING GEAR				0.2104	.34	0.1431	.11	0.0830	0.0414	.09	.10	.11	.13	0.0908	0.0898	0.1318
14	FLIGHT CONTROLS				0.0185	.09	0.0347	.03	0.0246	0.0240	.03	.03	.04	.06	0.0412	0.0423	0.0295
15	TURBO PROP POWER PLANT				0.4187	.49	0.2821	.21	0.1854	0.1888	.19	.17	.18	.28	0.1977	0.1948	0.2610
22	AUXILIARY POWER PLANT				0.0312	.06	0.0225	.02	0.0159	0.0169	.02	.02	.03	.04	0.0274	0.0279	0.0264
24	HYDRAULIC PROPPELLER				0.1792	.22	0.1152	.08	0.0896	0.0927	.05	.10	.13	.17	0.1692	0.2025	0.1241
41	AIR CONDITIONING, PRESSURIZATION				0.0779	.14	0.0674	.05	0.0472	0.0516	.06	.06	.08	.14	0.1035	0.1017	0.0747
42	ELECTRICAL POWER SUPPLY				0.0753	.11	0.0509	.03	0.0287	0.0291	.10	.02	.03	.04	0.0316	0.0304	0.0507
44	LIGHTING SYSTEM				0.0559	.11	0.0445	.03	0.0318	0.0371	.04	.04	.05	.09	0.0698	0.0818	0.0523
45	HYDRAULIC AND PNEUMATIC				0.0537	.11	0.0416	.04	0.0308	0.0338	.05	.04	.05	.08	0.0589	0.0609	0.0514
46	FUEL				0.1401	.10	0.0850	.08	0.0881	0.0921	.04	.07	.26	.25	0.1167	0.1249	0.1080
47	OXYGEN				0.0113	.04	0.0144	.01	0.0134	0.0134	.01	.02	.02	.02	0.0223	0.0312	0.0187
49	MISC. UTILITIES				0.0212	.03	0.0162	.02	0.0112	0.0174	.01	.02	.02	.03	0.0237	0.0244	0.0188
51	INSTRUMENTS				1.0.1936	.31	0.1387	.04	0.0576	0.0563	.04	.05	.06	.08	0.0548	0.0573	0.0760
52	AUTOPILOT				0.0746	.08	0.0526	.04	0.0359	0.0369	.04	.05	.05	.07	0.0612	0.0562	0.0514
55	NAVIGATION AID, & RECORDING EQUIP.				0.0204	.04	0.0159	.02	0.0086	0.0086	.01	.02	.02	.03	0.0237	0.0276	0.0208
61	VHF COMMUNICATIONS				0.0156	.03	0.0104	.01	0.0088	0.0070	.01	.01	.01	.01	0.0124	0.0093	0.0116
62	VHF COMMUNICATIONS				0.0706	.07	0.0483	.03	0.0278	0.0281	.03	.03	.04	.05	0.0372	0.0348	0.0401
63	VHF COMMUNICATIONS				0.0273	.03	0.0483	.02	0.0316	0.0324	.03	.03	.04	.07	0.0541	0.0518	0.0427
64	TELEPHONE				0.0472	.04	0.0327	.03	0.0174	0.0175	.03	.01	.01	.02	0.0161	0.0134	0.0246
65	IFF				0.0255	.02	0.0202	.01	0.0155	0.0171	.01	.02	.03	.07	0.0417	0.0317	0.0202
66	EMERGENCY COMMUNICATIONS				0.0078	.02	0.0058	.01	0.0020	0.0029	.01	.01	.01	.01	0.0038	0.0026	0.0059
69	MISC. COMMUNICATIONS				0.2407	.22	0.1445	.04	0.0871	0.0875	.07	.09	.04	.14	0.1210	0.1076	0.1206
71	RADIO NAVIGATION				0.3243	.36	0.1127	.15	0.1112	0.1478	.17	.17	.16	.30	0.2820	0.2745	0.1924
72	RADIO NAVIGATION				0.0773	.14	0.0506	.03	0.0281	0.0258	.02	.02	.03	.07	0.0237	0.0235	0.0429
91	EMERGENCY EQUIPMENT				0.0000	.01	0.0000	.01	0.0000	0.0000	.01	.01	.01	.01	0.0000	0.0000	0.0000
96	PERSONNEL EQUIPMENT				0.0054	.01	0.0035	.01	0.0020	0.0031	.01	.01	.01	.01	0.0039	0.0064	0.0040
97	EXPLOSIVE DEVICES																
TOTALS					2.6118	3.08	1.7797	1.32	1.2200	1.2796	1.26	1.34	1.77	2.63	1.9909	2.0179	1.8302

* NORMALIZED DATA

TABLE D-27 C-130E, ORGANIZATIONAL REMOVE AND REPLACE TASKS PER 1000 FLIGHT HOURS

SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11 AIRFRAME	10.2	2.2	3.5	4.4	20.5	6.2	9.2	7.0	0.7	9.0	7.1	10.0	15.6	13.2	15.8	7.2
12 COCKPIT AND FUELAGE	23.1	21.2	16.9	13.6	15.0	12.2	12.0	16.2	15.4	2.9	11.2	12.7	19.1	15.9	25.5	15.4
13 LANDING GEAR	23.6	26.1	21.6	29.0	20.8	26.5	21.6	28.4	32.2	25.6	27.9	21.3	20.5	21.2	21.5	22.4
14 FLIGHT CONTROLS	45.3	54.8	51.2	53.2	12.8	6.5	9.4	6.9	7.1	11.5	6.2	5.6	10.6	6.8	6.9	6.2
22 TURBO PROP POWER PLANT	49.5	49.5	58.9	66.1	29.6	67.3	87.7	60.3	69.8	32.1	61.8	83.3	67.6	55.1	64.7	60.2
24 AUXILIARY POWER PLANT	4.6	4.8	5.0	5.2	11.6	6.2	7.7	6.1	6.3	6.9	6.0	7.1	8.9	6.3	9.6	6.1
32 HYDRAULIC PROPELLER	22.0	20.6	12.2	16.6	21.4	14.0	25.7	16.7	16.8	19.2	15.3	15.3	18.0	18.3	22.9	16.5
41 AIR CONDITIONING, PRESSURIZATION	7.1	8.2	10.6	12.3	13.9	12.2	11.0	11.0	10.8	40.3	6.2	6.2	6.0	7.6	6.6	15.4
42 ELECTRICAL POWER SUPPLY	9.9	10.1	11.3	12.3	25.5	14.0	16.2	17.1	18.3	18.0	12.6	17.6	20.4	23.4	30.4	16.5
43 LIGHTING SYSTEM	8.8	8.6	9.5	10.3	22.0	11.9	18.4	13.5	14.4	17.9	12.5	15.3	20.0	17.2	18.0	13.3
45 HYDRAULIC AND PNEUMATIC	21.4	20.6	14.0	9.0	6.3	8.2	15.7	13.0	12.4	11.6	11.3	12.8	18.3	16.7	18.5	12.5
46 FUEL	3.1	3.4	3.7	4.0	6.8	4.6	6.0	5.0	5.4	5.1	3.9	5.6	8.2	5.8	7.2	5.0
47 ENGINE	1.9	2.2	2.6	3.0	9.0	3.0	5.0	4.5	4.8	4.6	4.1	5.3	8.2	6.2	7.0	4.4
49 ROSE, UTILITIES	0.0	3.2	26.2	40.5	61.6	43.5	19.3	27.7	26.3	18.6	18.2	20.4	24.3	18.7	18.0	28.4
51 INSTRUMENTS	11.1	11.6	11.6	11.8	10.0	11.9	15.9	12.3	12.4	16.7	13.4	12.0	14.0	11.3	10.8	12.2
52 AUTOPILOT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1
55 INSTRUMENTATION AIDS, & RECORDING EQUIP.	1.3	1.4	1.6	1.8	3.3	2.0	4.0	2.3	2.5	3.3	3.0	2.8	2.3	2.5	2.4	2.0
61 COMMUNICATIONS	1.6	1.6	1.6	1.6	2.3	1.6	2.8	1.6	1.6	2.1	1.8	1.4	1.4	1.2	0.9	1.6
62 VHF COMMUNICATIONS	4.9	5.5	6.7	7.6	4.4	2.0	9.7	6.0	6.0	9.6	6.5	7.6	6.9	3.8	3.1	6.7
63 VHF COMMUNICATIONS	14.0	14.0	14.0	14.0	10.5	14.0	8.7	14.0	14.0	11.6	10.9	12.2	18.6	15.1	16.7	13.9
64 INTERPHONE	2.1	2.6	2.8	4.0	5.8	4.9	11.5	4.0	4.0	8.4	2.0	1.6	1.0	1.7	1.2	3.9
65 IFF	0.9	1.0	1.1	1.2	0.3	1.4	2.1	1.6	1.6	1.1	1.3	2.2	5.0	1.3	1.4	1.5
66 EMERGENCY COMMUNICATIONS	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
67 ROSE, COMMUNICATIONS	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
69 ROSE, COMMUNICATIONS	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
71 RADIO NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72 RADAR NAVIGATION	4.3	6.3	9.6	12.8	16.7	9.5	20.7	16.0	18.5	20.3	21.4	12.7	16.5	14.4	10.2	15.8
91 INSTRUMENT EQUIPMENT	4.0	0.0	0.0	0.0	0.2	0.2	-	0.0	10.2	0.0	6.6	10.3	7.0	0.0	7.0	10.5
96 FANSHALL EQUIPMENT	2.3	2.1	1.6	1.2	1.7	1.1	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.0
97 EXPLOSIVE DEVICES	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8
TOTALS	250.2	270.7	311.2	302.3	560.5	356.4	460.0	349.1	353.4	386.1	299.6	385.4	415.9	327.4	348.1	248.4

ALVO 6121 NWDA

TABLE D-28 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL REMOVE AND REPLACE TASKS

SYS. NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	7.06	1.00	1.12	1.12	4.03	1.71	2.00	2.11	2.56	2.56	2.32	3.25	3.78	4.02	4.14	2.87
12	COCKPIT AND FUSELAGE	0.95	7.03	5.42	3.96	2.91	2.62	2.03	4.64	4.64	2.87	3.74	6.28	4.58	4.06	6.18	4.41
13	LANDING GEAR	9.14	9.64	10.15	10.45	13.02	10.21	11.42	9.28	9.32	9.29	7.98	9.32	7.23	6.48	6.19	9.29
14	FLY. CONTROLS	2.05	2.03	1.63	1.72	2.21	1.80	2.04	1.80	2.01	2.04	2.10	1.97	2.55	2.00	1.90	2.04
22	TURBO PROP POWER PLANT	17.42	10.29	10.09	10.25	15.65	10.08	10.07	17.12	16.98	17.34	17.29	15.09	16.25	16.03	15.71	17.46
24	AUXILIARY POWER PLANT	1.70	1.77	1.61	1.51	2.20	1.60	1.67	1.75	1.78	1.79	2.00	2.12	2.14	2.02	1.81	1.77
25	HYDRAULIC PROPELLER	0.52	2.61	5.53	4.25	6.21	2.93	5.59	4.70	5.75	3.49	5.11	4.66	4.23	5.59	5.68	4.70
41	AIR CONDITIONING, PRESSURIZATION	3.83	6.14	4.05	4.08	5.15	4.69	6.18	6.64	6.02	6.06	5.31	7.64	8.02	7.94	7.66	5.99
42	ELECTRICAL POWER SUPPLY	2.75	3.03	3.41	2.64	2.72	2.56	2.57	3.15	3.06	10.46	2.07	1.95	1.92	2.32	2.47	2.30
43	LIGHTING SYSTEM	2.48	2.72	3.63	2.50	5.01	4.15	3.30	4.96	5.18	4.05	4.64	6.22	7.31	7.15	6.73	4.70
45	HYDRAULIC AND PNEUMATIC	3.02	3.10	3.06	3.00	4.32	3.34	4.00	3.87	4.07	4.65	4.17	5.66	4.81	6.26	6.40	2.65
46	FUEL	0.06	7.61	4.50	2.62	1.24	2.20	3.41	2.71	3.79	2.13	2.72	3.02	4.40	5.10	5.21	3.65
47	OTHER	1.20	1.24	1.19	1.17	1.34	1.29	1.48	1.64	1.52	1.32	1.30	1.67	1.97	1.77	2.10	1.45
49	MISC. UTILITIES	0.74	0.65	0.64	0.67	1.27	1.07	1.09	1.25	1.36	1.19	1.37	1.08	2.08	1.92	2.01	1.77
51	INSTRUMENTS	0.00	3.70	7.70	11.00	12.15	12.21	4.15	7.33	7.44	4.00	6.07	6.08	6.04	6.71	6.40	6.72
52	AUTOPILLOT	4.30	4.14	3.68	3.36	1.97	3.34	3.46	3.49	3.61	3.82	4.47	3.68	3.37	3.43	3.10	3.53
53	NAVIGATION AID. & RECORDING EQUIP.	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	0.03	0.01
54	IN. COMMUNICATIONS	0.50	0.52	0.51	0.52	0.65	0.66	1.20	0.64	0.71	0.66	1.00	0.83	0.65	0.76	0.69	0.67
55	W/F COMMUNICATIONS	0.62	0.55	0.51	0.47	0.45	0.45	0.51	0.46	0.46	0.56	0.40	0.42	0.34	0.40	0.36	0.46
63	W/F COMMUNICATIONS	1.90	2.03	2.15	2.21	0.97	2.19	2.11	1.94	1.52	2.49	2.17	2.27	1.42	1.16	0.89	1.64
64	W/F COMMUNICATIONS	5.12	5.17	4.50	4.06	2.08	3.93	1.09	4.01	3.96	3.01	3.64	3.64	4.47	4.82	4.00	4.02
65	IFF	0.81	0.96	1.22	1.00	1.08	1.37	2.50	1.15	1.13	2.18	0.67	0.45	0.43	0.62	0.34	1.33
66	EMERGENCY COMMUNICATIONS	0.34	0.37	0.36	0.35	0.06	0.30	0.46	0.46	0.51	0.29	0.57	0.46	1.20	0.34	0.40	0.46
69	MISC. COMMUNICATIONS	1.00	0.50	0.51	0.49	0.77	0.51	0.48	0.43	0.40	0.36	0.40	0.42	0.29	0.43	0.28	0.46
71	RADIO NAVIGATION	2.10	3.95	6.30	6.15	2.64	6.12	6.28	6.01	4.04	5.09	6.17	4.90	2.90	2.63	1.41	5.03
72	RADIO NAVIGATION	0.50	5.43	4.54	3.61	3.09	2.67	0.41	4.01	6.23	10.15	7.16	4.08	2.97	4.40	2.93	4.57
91	EMERGENCY EQUIPMENT	1.70	2.33	5.18	3.76	6.53	3.76	3.50	2.89	2.89	2.89	2.89	2.07	1.80	1.47	2.81	3.04
94	PERSONNEL EQUIPMENT	0.04	0.06	0.06	0.06	0.04	-	-	0.06	0.06	0.00	0.03	0.00	-	0.00	-	0.00
97	EXPLOSIVE DEVICES	0.00	0.70	0.31	0.30	0.32	0.21	0.33	0.46	0.45	0.47	0.63	0.48	0.79	0.43	0.52	0.46
TOTALS		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* SUPPLEMENTED DATA

TABLE D-29 C-130E ORGANIZATIONAL REMOVE AND REPLACE TASKS PER SOURCE

S/N	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				0.0191	0.04	0.0179	0.02	0.0119	0.0159	0.0215	0.05	0.03	0.05	0.0372	0.0408	0.0285
12	COCKPIT AND FUELAGE				0.0097	0.04	0.0171	0.02	0.0098	0.0118	0.0177	0.05	0.05	0.05	0.0418	0.0439	0.0400
13	LANDING GEAR				0.1554	0.29	0.1955	0.16	0.0412	0.0615	0.0740	0.07	0.04	0.09	0.0598	0.0555	0.1029
14	FLIGHT CONTROLS				0.0515	0.06	0.0195	0.02	0.0129	0.0178	0.0350	0.02	0.02	0.03	0.0192	0.0178	0.0216
15	TURBO PROP POWER PLANT				0.2862	0.23	0.1945	0.12	0.1140	0.1164	0.0703	0.14	0.4	0.20	0.1554	0.1411	0.1808
16	AUXILIARY POWER PLANT				0.0225	0.03	0.0165	0.02	0.0118	0.0122	0.0151	0.02	0.02	0.03	0.0186	0.0144	0.0204
17	HYDRAULIC POWER				0.0432	0.09	0.0105	0.05	0.0218	0.0236	0.0111	0.04	0.04	0.06	0.0518	0.0591	0.0771
18	AIR CONDITIONING, PRESSURIZATION				0.0406	0.11	0.0483	0.05	0.0367	0.0509	0.0510	0.05	0.07	0.11	0.0733	0.0678	0.0596
19	ELECTRICAL POWER SUPPLY				0.0513	0.06	0.0367	0.02	0.0208	0.0210	0.0403	0.02	0.02	0.02	0.0214	0.0222	0.0346
20	LIGHTING SYSTEM				0.0446	0.09	0.0346	0.03	0.0323	0.0355	0.0412	0.04	0.06	0.09	0.0460	0.0784	0.0514
21	HYDRAULIC AND PNEUMATIC				0.0446	0.09	0.0346	0.04	0.0255	0.0275	0.0392	0.04	0.04	0.06	0.0406	0.0445	0.0431
22	FUEL				0.0390	0.03	0.0237	0.03	0.0216	0.0260	0.0290	0.03	0.03	0.05	0.0471	0.0477	0.0317
23	OSTEAL				0.0173	0.03	0.0121	0.01	0.0110	0.0105	0.0112	0.01	0.01	0.02	0.0164	0.0186	0.0142
24	MISC. UTILITIES				0.0130	0.04	0.0110	0.01	0.0045	0.0093	0.0101	0.01	0.02	0.03	0.0178	0.0183	0.0182
25	HEATING				0.1764	0.25	0.1927	0.04	0.0524	0.0510	0.0406	0.04	0.04	0.07	0.0527	0.0485	0.0426
26	HYDRAULIC				0.0498	0.04	0.0346	0.03	0.0231	0.0241	0.0322	0.04	0.03	0.04	0.0219	0.0279	0.0326
27	NAVIGATION														0.0000	0.0003	0.0000
28	NAVIGATION														0.0000	0.0003	0.0000
29	NAVIGATION														0.0000	0.0003	0.0000
30	NAVIGATION														0.0000	0.0003	0.0000
31	NAVIGATION														0.0000	0.0003	0.0000
32	NAVIGATION														0.0000	0.0003	0.0000
33	NAVIGATION														0.0000	0.0003	0.0000
34	NAVIGATION														0.0000	0.0003	0.0000
35	NAVIGATION														0.0000	0.0003	0.0000
36	NAVIGATION														0.0000	0.0003	0.0000
37	NAVIGATION														0.0000	0.0003	0.0000
38	NAVIGATION														0.0000	0.0003	0.0000
39	NAVIGATION														0.0000	0.0003	0.0000
40	NAVIGATION														0.0000	0.0003	0.0000
41	NAVIGATION														0.0000	0.0003	0.0000
42	NAVIGATION														0.0000	0.0003	0.0000
43	NAVIGATION														0.0000	0.0003	0.0000
44	NAVIGATION														0.0000	0.0003	0.0000
45	NAVIGATION														0.0000	0.0003	0.0000
46	NAVIGATION														0.0000	0.0003	0.0000
47	NAVIGATION														0.0000	0.0003	0.0000
48	NAVIGATION														0.0000	0.0003	0.0000
49	NAVIGATION														0.0000	0.0003	0.0000
50	NAVIGATION														0.0000	0.0003	0.0000
51	NAVIGATION														0.0000	0.0003	0.0000
52	NAVIGATION														0.0000	0.0003	0.0000
53	NAVIGATION														0.0000	0.0003	0.0000
54	NAVIGATION														0.0000	0.0003	0.0000
55	NAVIGATION														0.0000	0.0003	0.0000
56	NAVIGATION														0.0000	0.0003	0.0000
57	NAVIGATION														0.0000	0.0003	0.0000
58	NAVIGATION														0.0000	0.0003	0.0000
59	NAVIGATION														0.0000	0.0003	0.0000
60	NAVIGATION														0.0000	0.0003	0.0000
61	NAVIGATION														0.0000	0.0003	0.0000
62	NAVIGATION														0.0000	0.0003	0.0000
63	NAVIGATION														0.0000	0.0003	0.0000
64	NAVIGATION														0.0000	0.0003	0.0000
65	NAVIGATION														0.0000	0.0003	0.0000
66	NAVIGATION														0.0000	0.0003	0.0000
67	NAVIGATION														0.0000	0.0003	0.0000
68	NAVIGATION														0.0000	0.0003	0.0000
69	NAVIGATION														0.0000	0.0003	0.0000
70	NAVIGATION														0.0000	0.0003	0.0000
71	NAVIGATION														0.0000	0.0003	0.0000
72	NAVIGATION														0.0000	0.0003	0.0000
73	NAVIGATION														0.0000	0.0003	0.0000
74	NAVIGATION														0.0000	0.0003	0.0000
75	NAVIGATION														0.0000	0.0003	0.0000
76	NAVIGATION														0.0000	0.0003	0.0000
77	NAVIGATION														0.0000	0.0003	0.0000
78	NAVIGATION														0.0000	0.0003	0.0000
79	NAVIGATION														0.0000	0.0003	0.0000
80	NAVIGATION														0.0000	0.0003	0.0000
81	NAVIGATION														0.0000	0.0003	0.0000
82	NAVIGATION														0.0000	0.0003	0.0000
83	NAVIGATION														0.0000	0.0003	0.0000
84	NAVIGATION														0.0000	0.0003	0.0000
85	NAVIGATION														0.0000	0.0003	0.0000
86	NAVIGATION														0.0000	0.0003	0.0000
87	NAVIGATION														0.0000	0.0003	0.0000
88	NAVIGATION														0.0000	0.0003	0.0000
89	NAVIGATION														0.0000	0.0003	0.0000
90	NAVIGATION														0.0000	0.0003	0.0000
91	NAVIGATION														0.0000	0.0003	0.0000
92	NAVIGATION														0.0000	0.0003	0.0000
93	NAVIGATION														0.0000	0.0003	0.0000
94	NAVIGATION														0.0000	0.0003	0.0000
95	NAVIGATION														0.0000	0.0003	0.0000
96	NAVIGATION														0.0000	0.0003	0.0000
97	NAVIGATION														0.0000	0.0003	0.0000
98	NAVIGATION														0.0000	0.0003	0.0000
99	NAVIGATION														0.0000	0.0003	0.0000
100	NAVIGATION														0.0000	0.0003	0.0000
TOTALS					1.4085	2.11	1.8208	0.90	0.6508	0.6865	0.8475	0.81	0.89	1.23	0.9233	0.8881	1.0184

* NORMALIZED DATA

TABLE D-30, C-130E ORGANIZATIONAL REMOVE AND REINSTALL TASKS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	1.4	2.3	3.0	3.2	20.4	5.2	24.6	6.7	7.4	14.4	10.1	6.2	9.8	6.4	6.2	6.7
12	COCKPIT AND FUSELAGE	3.2	2.3	2.3	1.2	10.2	1.8	5.3	2.2	2.2	1.3	1.3	1.0	2.0	1.0	2.0	2.1
13	LANDING GEAR	2.0	2.2	2.5	3.0	7.1	3.8	6.4	2.7	2.7	2.2	2.2	1.7	0.9	2.0	1.5	2.7
14	FLIGHT CONTROLS	0.1	0.5	0.5	0.5	2.8	0.4	2.0	0.7	0.7	0.9	0.9	0.8	0.6	0.6	0.6	0.7
22	TURBO PROP POWER PLANT	2.4	2.8	3.1	3.5	10.1	3.8	5.0	3.2	2.2	2.6	1.7	1.0	4.0	3.0	2.0	3.2
24	AUXILIARY POWER PLANT	0.6	0.6	0.6	0.7	1.7	0.7	1.2	0.8	0.8	0.9	0.5	0.3	0.8	1.0	1.5	0.8
32	HYDRAULIC PROPELLER	15.3	14.3	11.9	10.1	21.2	9.7	10.4	11.4	11.7	1.2	2.7	3.0	13.3	24.0	34.8	11.4
41	AIR CONDITIONING, FRESHENING	0.3	0.4	0.4	0.4	2.6	0.5	1.6	0.6	0.6	0.9	0.8	0.6	0.7	0.4	0.3	0.6
42	ELECTRICAL POWER SUPPLY	1.0	1.1	1.4	1.7	9.6	1.7	3.4	1.5	1.5	2.5	1.0	0.8	0.9	0.9	0.4	1.5
44	LIGHTING SYSTEM	0.1	0.1	0.2	0.2	1.2	0.2	0.4	0.2	0.3	0.2	0.2	0.1	0.4	0.3	0.2	0.2
45	HYDRAULIC AND PNEUMATIC	0.1	0.1	0.1	0.1	1.7	0.1	0.7	0.2	0.2	0.3	0.1	0.2	0.1	0.1	0.1	0.2
46	FUEL	5.6	4.9	3.4	2.2	15.2	2.0	21.9	3.1	3.2	3.3	2.0	0.4	1.2	1.0	3.3	3.0
47	ENGINE	0.1	0.1	0.1	0.1	0.2	0.1	0.7	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1
49	MISC. UTILITIES	0.2	0.2	0.2	0.2	3.5	0.3	1.1	0.4	0.4	0.4	0.3	0.2	0.5	0.4	0.4	0.4
51	INSTRUMENTS	-	0.1	0.3	0.6	3.0	0.6	0.6	0.4	0.4	0.1	0.1	0.2	0.1	0.1	0.3	0.4
52	AUTOFOLLOW	0.2	0.2	0.2	0.2	1.9	0.2	1.6	0.2	0.2	0.1	0.1	0.2	0.1	0.0	0.0	0.2
55	MAIN FUNCTION ANAL. & RECORDING EQUIP.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
56	HF COMMUNICATIONS	0.0	0.0	0.1	0.1	1.0	0.1	0.0	0.1	0.1	0.0	0.0	-	0.0	0.0	0.0	0.1
61	VHF COMMUNICATIONS	-	-	-	-	1.4	-	0.5	-	-	-	-	-	-	-	-	-
62	UHF COMMUNICATIONS	0.2	0.2	0.2	0.2	3.0	0.2	1.7	0.2	0.2	0.0	0.0	0.0	0.0	0.0	-	0.2
63	UHF COMMUNICATIONS	0.2	0.2	0.2	0.2	2.4	0.2	1.1	0.2	0.2	0.0	-	0.0	0.1	0.0	0.0	0.1
64	INTERPHONE	0.1	0.1	0.1	0.2	1.2	0.2	1.5	0.1	0.1	-	-	-	-	-	-	0.1
65	IFF	-	-	-	-	0.1	-	0.4	-	-	0.1	0.1	0.0	0.0	0.0	0.0	0.0
66	EMERGENCY COMMUNICATIONS	-	-	-	-	0.1	-	0.6	-	-	0.0	-	-	-	-	-	0.3
69	MISC. COMMUNICATIONS	0.2	0.2	0.3	0.4	3.0	0.4	2.6	0.4	0.3	0.1	0.1	0.0	0.1	0.0	0.0	0.0
71	RADIO NAVIGATION	-	0.8	0.0	0.7	12.0	0.5	7.5	0.9	1.0	0.2	0.1	0.4	0.3	0.1	0.1	0.4
72	RADAR NAVIGATION	-	0.7	0.4	0.6	6.6	0.6	1.1	0.5	0.4	0.3	0.3	0.2	0.4	0.3	0.4	-
91	EMERGENCY EQUIPMENT	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-
96	PERSONNEL EQUIPMENT	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-
97	EXPLOSIVE DEVICES	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-
-	TOTALS	34.3	34.4	32.6	31.6	129.3	32.2	112.6	37.0	38.0	31.2	25.7	10.0	26.2	44.1	64.1	26.2

* NORMALIZED DATA

TABLE D-31 6-YEAR PERCENT DISTRIBUTION OF ORGANIZATIONAL REMOVE AND REINSTALL TASKS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	14 YEAR AVERAGE
11	AIRBANE	4.69	6.69	9.33	11.71	16.64	17.72	21.06	18.11	19.47	46.93	20.28	26.08	23.31	19.61	2.61	10.46
12	COAST AND INFLAGE	9.26	8.33	7.09	6.01	7.32	5.42	4.21	5.95	6.05	9.10	5.06	5.66	5.62	4.21	3.29	5.72
13	LANDING GEAR	6.87	6.40	6.00	9.49	9.10	9.04	6.64	7.32	7.11	6.83	12.84	9.44	2.49	4.54	2.72	7.44
14	FLIGHT CONTROLS	1.47	1.46	1.05	1.90	2.01	1.81	1.78	1.99	1.64	2.04	3.11	2.22	1.66	1.26	1.11	1.92
15	TURBO PROP POWER PLANT	7.04	7.56	7.66	11.06	7.25	10.81	4.44	6.63	6.47	8.29	6.61	5.66	12.26	6.00	5.26	6.62
22	AUXILIARY POWER PLANT	1.76	1.74	1.65	2.22	1.22	2.11	1.07	2.16	2.11	1.44	1.96	1.62	2.21	6.06	2.77	2.29
31	HYDRAULIC POWERFLER	44.87	1.67	26.42	31.96	15.29	29.22	10.24	21.25	20.79	3.79	10.51	21.11	20.74	54.42	64.22	31.40
32	AIR CONDITIONING, PRESSURIZATION	0.86	1.16	1.23	1.27	1.07	1.51	1.42	1.62	1.56	2.04	2.11	2.22	1.92	0.91	0.53	1.65
41	ELECTRICAL POWER SUPPLY	2.93	3.20	4.21	8.20	6.09	8.12	2.02	4.06	2.95	7.09	2.09	4.55	2.49	2.04	0.74	4.12
42	LIGHTING SYSTEM	0.39	0.39	0.45	0.63	0.63	0.60	0.36	0.64	0.79	0.63	0.70	0.66	1.10	0.64	0.37	0.85
43	HYDRAULIC AND PNEUMATIC	0.29	0.29	0.21	0.32	1.22	0.20	0.62	0.64	0.53	0.96	0.29	1.11	0.28	0.00	0.10	0.55
44	FUEL	16.42	16.24	10.46	6.96	10.90	6.02	19.45	0.20	8.42	10.41	7.78	2.22	3.21	6.31	0.10	0.76
45	OUTER	0.29	0.29	0.21	0.32	0.14	0.20	0.62	0.27	0.26	0.32	1.17	0.66	0.20	0.00	0.10	0.29
47	HYDRAULIC	0.59	0.59	0.62	0.63	2.51	0.90	0.96	1.00	1.06	1.26	1.17	1.11	1.26	0.91	0.74	1.10
49	HYDRAULIC	0.79	0.79	0.92	1.60	2.73	1.01	0.41	1.06	1.06	0.32	0.39	1.11	0.20	0.23	0.55	1.10
51	THEATERMITS	0.59	0.59	0.62	0.63	1.26	0.60	1.42	0.64	0.53	0.32	0.20	1.11	0.20	0.00	0.00	0.55
52	AUTOPILLOT	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
55	HALTING TION ANAL. & RECORDING EQUIP.	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
61	HF COMMUNICATIONS	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
62	VHF COMMUNICATIONS	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
63	UHF COMMUNICATIONS	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
64	INTERPHONE	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
65	NAV	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
65	NAV	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
66	EMERGENCY COMMUNICATIONS	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
66	EMERGENCY COMMUNICATIONS	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
69	MISC. COMMUNICATIONS	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
71	RADIO NAVIGATION	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
72	BAVAR NAVIGATION	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
72	BAVAR NAVIGATION	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
71	PAIDMENT EQUIPMENT	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
71	PAIDMENT EQUIPMENT	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
96	PERSONNEL EQUIPMENT	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
96	PERSONNEL EQUIPMENT	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
97	EXPLOSIVE SERVICES	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
97	EXPLOSIVE SERVICES	0.60	0.60	0.31	0.32	1.01	0.30	0.71	0.27	0.29	0.00	0.00	-	0.00	0.00	0.00	0.20
-	SERIALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

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TABLE D-32 C-130E ORGANIZATIONAL REMOVE AND REINSTALL TASKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				0.0168	0.04	0.0171	0.047	0.0127	0.0144	0.02	0.028	0.016	0.026	0.0180	0.0134	0.0298
12	COCKPIT AND FUSELAGE				0.0082	0.041	0.0052	0.10	0.0042	0.0045	0.003	0.01	0.003	0.006	0.0054	0.0052	0.0088
13	LANDING GEAR				0.0130	0.029	0.0087	0.12	0.0051	0.0052	0.005	0.009	0.004	0.003	0.0054	0.0039	0.0092
14	FLIGHT CONTROLS				0.0026	0.011	0.0017	0.004	0.0013	0.0015	0.002	0.002	0.001	0.002	0.0017	0.0015	0.0028
22	TURBO PROP POWER PLANT				0.0182	0.042	0.0104	0.009	0.0060	0.0062	0.006	0.005	0.003	0.014	0.0082	0.0075	0.0111
23	AUXILIARY POWER PLANT				0.0030	0.007	0.0020	0.002	0.0015	0.0016	0.001	0.001	0.001	0.002	0.0051	0.0039	0.0024
32	HYDRAULIC PROPELLER				0.0437	0.048	0.0280	0.15	0.0129	0.0122	0.003	0.008	0.010	0.079	0.0477	0.0098	0.0310
41	AIR CONDITIONING, PRESSURIZATION				0.0017	0.011	0.0014	0.003	0.0011	0.0012	0.002	0.002	0.002	0.002	0.0011	0.0008	0.0026
42	ELECTRICAL POWER SUPPLY				0.0074	0.039	0.0019	0.006	0.0028	0.0029	0.006	0.003	0.002	0.003	0.0025	0.0010	0.0072
44	LIGHTING SYSTEM				0.0009	0.005	0.0006	0.001	0.0004	0.0006	0.001	0.001	0.001	0.001	0.0008	0.0005	0.0008
45	HYDRAULIC AND PNEUMATIC				0.0004	0.001	0.0003	0.001	0.0004	0.0004	0.001	0.001	0.001	0.001	0.0004	0.0003	0.0009
46	FUEL				0.0025	0.063	0.0058	0.041	0.0059	0.0062	0.007	0.006	0.001	0.001	0.0054	0.0085	0.0140
47	ENGINE				0.0004	0.001	0.0003	0.001	0.0002	0.0002	0.001	0.001	0.001	0.001	0.0004	0.0003	0.0003
49	MISC. UTILITIES				0.0009	0.014	0.0009	0.002	0.0008	0.0008	0.001	0.001	0.001	0.002	0.0011	0.0010	0.0021
51	INSTRUMENTS				0.0026	0.015	0.0017	0.001	0.0008	0.0008	0.001	0.001	0.001	0.001	0.0003	0.0008	0.0020
52	AUTOPILOT				0.0009	0.008	0.0006	0.003	0.0004	0.0004	0.001	0.001	0.001	0.001	0.0004	0.0004	0.0014
55	NAVIGATION AID, & RECORDING EQUIP.				0.0004	0.008	0.0003	0.002	0.0002	0.0002	0.001	0.001	0.001	0.001	0.0004	0.0004	0.0011
61	HF COMMUNICATIONS				0.0004	0.006	0.0003	0.001	0.0004	0.0004	0.001	0.001	0.001	0.001	0.0004	0.0004	0.0005
62	VHF COMMUNICATIONS				0.0009	0.012	0.0006	0.003	0.0004	0.0004	0.001	0.001	0.001	0.001	0.0004	0.0004	0.0017
63	UHF COMMUNICATIONS				0.0009	0.010	0.0006	0.002	0.0004	0.0004	0.001	0.001	0.001	0.001	0.0004	0.0004	0.0014
64	INTERPHONE				0.0009	0.005	0.0006	0.003	0.0002	0.0002	0.001	0.001	0.001	0.001	0.0004	0.0004	0.0010
65	IFF				0.0009	0.005	0.0006	0.003	0.0002	0.0002	0.001	0.001	0.001	0.001	0.0004	0.0004	0.0010
66	EMERGENCY COMMUNICATIONS				0.0004	0.008	0.0003	0.002	0.0002	0.0002	0.001	0.001	0.001	0.001	0.0004	0.0004	0.0010
69	MISC. COMMUNICATIONS				0.0017	0.012	0.0012	0.001	0.0008	0.0008	0.001	0.001	0.001	0.001	0.0004	0.0004	0.0010
71	RADIO NAVIGATION				0.0030	0.019	0.0014	0.005	0.0017	0.0019	0.001	0.001	0.001	0.001	0.0003	0.0003	0.0022
72	RADAR NAVIGATION				0.0036	0.02	0.0017	0.002	0.0009	0.0008	0.001	0.001	0.001	0.001	0.0004	0.0004	0.0022
91	EMERGENCY EQUIPMENT				0.0004	0.005	0.0006	0.003	0.0002	0.0002	0.001	0.001	0.001	0.001	0.0004	0.0004	0.0011
96	PERSONNEL EQUIPMENT				0.0004	0.005	0.0006	0.003	0.0002	0.0002	0.001	0.001	0.001	0.001	0.0004	0.0004	0.0011
97	EXPLOSIVE DEVICES				0.0004	0.005	0.0006	0.003	0.0002	0.0002	0.001	0.001	0.001	0.001	0.0004	0.0004	0.0011
TOTALS					0.1368	0.573	0.0959	0.212	0.0899	0.0737	0.085	0.071	0.046	0.106	0.1244	0.1296	0.1474

* NORMALIZED DATA

TABLE D-33 C-130E INTERMEDIATE TASKS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	3.2	4.9	6.3	7.8	38.2	10.9	35.4	14.0	15.5	13.0	17.9	21.3	22.3	21.6	23.2	13.8
12	COCKPIT AND FUELAGE	41.8	41.2	37.7	26.3	99.2	25.1	41.5	31.4	31.9	20.9	30.1	104.5	20.8	24.6	25.2	26.4
13	LANDING GEAR	43.5	48.1	58.3	66.0	104.4	67.3	70.2	59.7	59.2	37.2	42.0	49.2	64.6	69.9	66.1	59.7
14	FLIGHT CONTROLS	4.7	4.9	5.1	5.3	10.6	5.7	11.7	6.1	6.3	10.3	5.8	6.6	8.2	6.8	5.8	6.2
22	TURBO PROP POWER PLANT	98.4	107.2	127.3	143.1	148.3	146.6	160.6	130.5	129.8	149.7	95.5	119.3	120.2	119.8	115.0	120.5
24	AUXILIARY POWER UNIT	5.3	5.5	5.7	6.0	14.2	6.5	11.2	7.0	7.3	5.9	4.1	8.1	10.1	9.0	10.2	6.9
32	HYDRAULIC POWER	61.6	57.6	48.1	40.7	68.0	39.2	53.4	46.6	47.1	61.8	47.6	62.7	42.7	37.1	47.5	46.2
41	AIR CONDITIONING, PRESSURIZATION	7.1	8.0	9.0	10.0	28.7	12.0	22.9	13.9	14.8	19.6	15.6	17.2	18.7	18.5	20.3	13.9
42	ELECTRICAL POWER SUPPLY	8.3	9.6	12.3	14.6	27.6	14.8	26.0	12.8	12.6	12.1	8.4	11.1	12.6	11.5	10.4	13.2
43	LIGHTING SYSTEM	2.2	2.5	1.8	3.1	7.3	3.7	7.3	4.3	4.6	6.0	5.2	6.3	6.0	3.9	4.6	4.2
45	HYDRAULIC AND PNEUMATIC	6.4	7.0	7.7	8.4	19.5	9.7	22.5	11.0	11.7	22.6	11.5	10.6	16.3	5.1	9.2	10.8
46	WHEEL	12.9	11.4	7.8	5.0	5.7	4.5	12.9	7.2	7.4	7.3	5.5	7.1	11.5	7.1	8.8	7.0
47	OUTRIGGER	2.6	2.9	2.1	2.3	5.5	3.9	8.1	1.1	4.6	5.4	3.6	6.1	6.1	4.5	5.5	3.8
49	MISC. UTILITIES	1.6	1.9	2.2	2.5	8.2	3.1	8.4	3.7	4.0	5.6	3.2	4.4	5.8	4.5	5.4	3.4
51	INSTRUMENTS	0.0	2.7	20.5	34.2	24.8	36.7	21.8	23.4	22.3	20.7	16.9	23.4	30.0	22.1	23.6	26.1
52	AUTOPILLOT	20.8	21.1	21.4	21.6	28.7	22.3	28.5	22.9	23.2	26.2	18.8	23.7	28.1	24.3	22.1	22.0
53	NAVIGATION AID, & RECORDING EQUIP.	0.0	-	-	-	-	-	0.1	0.6	0.0	0.0	-	-	-	0.2	0.5	0.0
54	HF COMMUNICATIONS	4.0	4.4	4.9	5.3	14.6	6.2	15.9	7.1	7.5	6.5	5.6	6.8	9.9	10.6	11.6	6.9
55	VHF COMMUNICATIONS	4.4	4.4	4.4	4.4	9.6	4.4	6.3	4.4	4.4	3.4	2.9	3.3	5.7	5.2	4.0	4.1
62	UHF COMMUNICATIONS	15.1	16.5	20.6	23.5	32.2	24.0	27.2	21.1	20.9	10.1	13.8	10.4	24.7	19.5	21.0	21.1
63	INTERPHONE	8.9	8.9	8.9	8.9	12.5	8.9	15.6	8.9	8.9	7.0	6.4	8.3	10.7	8.7	7.5	8.0
64	INTERPHONE	5.3	6.5	6.5	11.8	22.3	12.2	24.2	10.6	9.8	14.3	3.7	3.7	6.6	5.6	6.4	9.6
65	INTERPHONE	7.8	8.6	7.6	10.8	17.7	12.5	16.4	14.6	15.6	14.6	6.9	23.0	28.7	20.2	21.9	14.2
66	EMERGENCY COMMUNICATIONS	3.5	2.0	2.0	2.1	1.8	2.3	1.3	1.9	1.8	0.4	7.4	0.2	0.2	0.1	0.1	2.0
69	MISC. COMMUNICATIONS	24.8	32.2	49.7	63.6	64.1	65.8	60.9	52.7	51.6	43.5	33.5	34.7	54.6	45.6	51.3	52.2
71	RADIO NAVIGATION	0.0	72.2	69.9	61.7	114.8	46.6	113.1	82.7	90.9	97.4	67.6	65.0	121.8	116.8	136.4	77.4
72	RAдар NAVIGATION	1.6	2.2	3.4	4.4	9.1	4.6	12.4	3.7	3.5	3.7	2.6	6.1	2.6	4.4	3.1	3.8
91	EMERGENCY EQUIPMENT	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	-	-	-	-	0.0
94	PERSONAL EQUIPMENT	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	-	-	-	-	0.0
97	ENTERTAINMENT DEVICES	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	-	-	-	-	0.0
TOTALS		396.0	494.5	553.1	594.2	948.7	594.5	943.8	682.7	617.1	656.8	482.2	620.9	690.5	631.9	724.5	606.0

* NORMALIZED DATA

TABLE D-34 C-130E PERCENT DISTRIBUTION OF INTERMEDIATE TASKS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	0.00	0.97	1.19	1.31	3.94	1.42	3.01	2.32	2.61	1.99	2.21	2.32	3.19	3.42	3.22	2.79
12	COCKPIT AND FUSELAGE	11.23	0.33	5.81	4.93	10.75	4.19	4.92	5.21	5.17	4.87	5.25	15.23	4.41	5.48	10.58	6.04
13	LANDING GEAR	10.81	0.23	10.52	11.11	10.78	11.24	0.27	9.81	9.59	9.68	0.71	7.63	9.15	9.94	9.12	9.85
14	FLIGHT CONTROLS	1.18	0.99	0.55	0.89	0.99	0.95	1.29	1.01	1.02	1.57	1.20	1.02	1.17	0.92	0.80	1.02
22	TURBO PROP POWER PLANT	24.67	21.67	23.02	24.00	15.31	24.33	19.03	21.65	21.03	24.50	19.01	18.76	17.21	18.96	15.07	21.64
24	AUXILIARY POWER PLANT	1.23	1.11	1.03	1.01	1.47	1.09	1.33	1.15	1.18	0.90	0.85	1.27	1.45	1.42	1.41	1.14
35	HYDRAULIC PROPELLER	15.45	11.65	0.70	6.85	7.02	6.55	7.81	7.72	7.63	9.71	9.07	0.22	6.31	5.97	6.56	7.63
41	AIR CONDITIONING, PRESSURIZATION	1.78	1.62	1.63	1.68	2.96	2.01	2.71	2.31	2.40	2.98	3.24	2.69	2.68	2.93	2.80	2.79
42	ELECTRICAL POWER SUPPLY	2.04	1.94	2.22	2.46	2.88	2.47	3.04	2.12	2.04	1.94	1.74	1.72	1.80	1.42	2.54	2.18
44	LIGHTING SYSTEM	0.55	0.51	0.51	0.52	0.75	1.02	0.97	0.71	0.75	1.04	1.08	0.83	0.72	0.62	0.61	0.63
45	HYDRAULIC AND PNEUMATIC	1.60	1.42	1.39	1.41	2.01	1.62	2.67	1.83	1.90	3.44	2.38	1.66	2.33	1.42	1.27	1.78
46	FUEL	3.23	2.30	1.41	0.84	0.59	0.75	1.53	1.19	1.20	1.11	1.18	1.11	1.65	1.98	1.21	1.16
47	OUTER	0.45	0.59	0.46	0.55	0.57	0.65	0.96	0.18	0.15	0.46	0.75	0.61	0.47	0.71	0.76	0.63
49	MISC. UTILITIES	0.40	0.38	0.40	0.42	0.85	0.52	1.00	0.61	0.65	0.65	0.68	0.69	0.83	0.71	0.75	0.61
51	INSTRUMENTS	0.00	0.55	3.71	15.76	7.72	6.13	3.54	3.48	3.60	3.15	3.50	3.66	4.29	3.58	3.28	4.31
52	AUTOPILLOT	5.22	6.27	3.87	3.64	2.96	3.73	3.36	2.80	2.76	3.99	3.90	3.70	4.02	3.96	3.95	3.76
53	INSTRUCTION ANAL. & RECORDING EQUIP.	0.00	-	-	-	-	-	0.01	0.00	0.00	-	-	-	-	0.03	0.07	0.00
61	HF COMMUNICATIONS	1.00	0.08	0.89	0.89	1.81	3.04	1.08	1.18	1.27	0.99	1.16	0.94	1.42	1.68	1.60	1.14
62	VHF COMMUNICATIONS	1.10	0.89	0.29	0.74	0.99	0.74	0.75	0.73	0.71	0.52	0.60	0.52	0.82	0.82	0.55	0.72
63	UHF COMMUNICATIONS	3.78	3.40	3.72	3.96	2.29	4.01	3.22	3.50	3.39	2.76	3.96	2.96	3.54	3.09	2.90	3.48
64	INTERCOM	2.23	1.80	1.61	1.50	1.29	1.49	1.86	1.48	1.44	1.07	1.33	1.30	1.57	1.30	1.04	1.45
65	IFF	1.33	1.31	1.72	1.59	2.30	2.04	2.07	1.66	1.59	2.18	0.77	0.59	0.94	0.89	0.80	1.58
66	EMERGENCY COMMUNICATIONS	1.96	1.74	1.74	1.78	1.83	2.09	1.94	2.42	2.83	2.22	1.43	1.99	0.11	2.20	2.02	2.34
69	MISC. COMMUNICATIONS	0.88	0.40	0.36	0.35	0.19	0.38	0.15	0.32	0.29	0.06	1.53	0.83	0.03	0.02	0.01	0.33
71	RADIO NAVIGATION	6.22	6.51	8.99	10.70	6.42	10.59	7.22	8.74	8.34	6.62	6.95	5.42	7.02	7.22	7.08	8.62
72	MAJOR NAVIGATION	1.00	14.40	32.63	10.30	31.85	7.79	13.40	13.72	14.73	14.83	14.02	10.78	17.44	18.48	18.59	12.78
91	EMERGENCY EQUIPMENT	0.40	0.44	0.61	0.74	0.91	0.77	1.47	0.61	0.51	0.56	0.64	0.60	0.37	0.70	0.73	0.64
96	PERSONNEL EQUIPMENT	0.00	0.00	0.00	0.00	-	0.00	-	0.00	0.00	-	-	-	-	-	-	0.00
97	EXPLOSIVE DEVICES	0.00	0.00	0.00	0.00	-	0.00	-	0.00	0.00	-	-	-	-	0.02	-	0.00
-	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE D-35 C-130E INTERMEDIATE TASKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME	0.0128			0.0128	0.16	0.0115	0.05	0.0255	0.0301	0.02	0.05	0.05	0.05	0.0599	0.0601	0.0525
12	COCKPIT AND FUSELAGE	0.1139			0.1139	0.40	0.0725	0.08	0.0513	0.0513	0.02	0.05	0.02	0.02	0.0275	0.1568	0.1248
13	LANDING GEAR	0.2850			0.2850	0.43	0.1945	0.15	0.1128	0.1148	0.05	0.12	0.12	0.12	0.1592	0.1705	0.1749
14	FLIGHT CONTROLS	0.0229			0.0229	0.04	0.0165	0.02	0.0118	0.0122	0.02	0.02	0.02	0.02	0.0164	0.0150	0.0194
22	TURBO PROP POWER PLANT	0.6196			0.6196	0.61	0.4208	0.30	0.2458	0.2518	0.35	0.27	0.30	0.35	0.3378	0.2957	0.2504
24	AUXILIARY POWER PLANT	0.0260			0.0260	0.06	0.0188	0.02	0.0132	0.0132	0.01	0.01	0.02	0.02	0.0254	0.0261	0.0270
32	HYDRAULIC PROPELLER	0.1722			0.1722	0.28	0.1133	0.12	0.0881	0.0914	0.15	0.13	0.15	0.12	0.1046	0.1275	0.1341
41	AIR CONDITIONING, PRESSURIZATION	0.0433			0.0433	0.12	0.0317	0.04	0.0253	0.0287	0.04	0.04	0.04	0.05	0.0522	0.0524	0.0459
42	ELECTRICAL POWER SUPPLY	0.0432			0.0432	0.11	0.0328	0.05	0.0242	0.0244	0.03	0.02	0.03	0.04	0.0324	0.0375	0.0433
44	LIGHTING SYSTEM	0.0134			0.0134	0.03	0.0107	0.01	0.0081	0.0089	0.02	0.01	0.01	0.02	0.0110	0.0119	0.0134
45	HYDRAULIC AND PNEUMATIC	0.0345			0.0345	0.08	0.0280	0.04	0.0208	0.0227	0.05	0.03	0.03	0.05	0.0254	0.0237	0.0346
46	FUEL	0.0217			0.0217	0.02	0.0130	0.02	0.0136	0.0144	0.02	0.02	0.02	0.03	0.0245	0.0227	0.0189
47	OXYGEN	0.0143			0.0143	0.02	0.0113	0.02	0.0071	0.0098	0.01	0.01	0.01	0.02	0.0127	0.0142	0.0125
49	HISC. UTILITIES	0.0106			0.0106	0.03	0.0090	0.02	0.0070	0.0078	0.01	0.01	0.01	0.02	0.0127	0.0139	0.0134
51	INSTRUMENTS	0.1481			0.1481	0.30	0.1061	0.04	0.0412	0.0421	0.05	0.05	0.06	0.08	0.0423	0.0609	0.0858
52	ANTIFLOUT	0.0935			0.0935	0.12	0.0644	0.05	0.0433	0.0450	0.06	0.05	0.06	0.06	0.0685	0.0570	0.0439
55	NAV FUNCTION AID. & RECORDING EQUIP.								0.0000	0.0000					0.0006	0.0013	0.0001
61	HF COMMUNICATIONS	0.0229			0.0229	0.06	0.0179	0.03	0.0134	0.0146	0.01	0.02	0.02	0.03	0.0299	0.0299	0.0242
62	VHF COMMUNICATIONS	0.0191			0.0191	0.04	0.0127	0.01	0.0083	0.0085	0.01	0.01	0.01	0.02	0.0147	0.0103	0.0140
63	UHF COMMUNICATIONS	0.1018			0.1018	0.09	0.0694	0.05	0.0299	0.0405	0.04	0.04	0.05	0.07	0.0550	0.0542	0.0569
64	INTERPHONE	0.0385			0.0385	0.05	0.0257	0.03	0.0168	0.0173	0.02	0.02	0.02	0.02	0.0245	0.0193	0.0260
65	IFF	0.0511			0.0511	0.08	0.0353	0.05	0.0189	0.0190	0.03	0.01	0.01	0.02	0.0158	0.0166	0.0333
66	EMERGENCY COMMUNICATIONS	0.0459			0.0459	0.07	0.0361	0.03	0.0276	0.0303	0.03	0.02	0.06	0.06	0.0570	0.0545	0.0416
69	HISC. COMMUNICATIONS	0.0091			0.0091	0.01	0.0066		0.0036	0.0035		0.02			0.0003	0.0003	0.0044
71	RADIO NAVIGATION	0.2784			0.2784	0.26	0.1902	0.11	0.0956	0.1001	0.09	0.09	0.09	0.16	0.1286	0.1324	0.1412
72	NAVIGATION	0.2672			0.2672	0.47	0.1347	0.21	0.1563	0.1763	0.21	0.19	0.18	0.35	0.3294	0.3493	0.2370
91	EMERGENCY EQUIPMENT	0.0191			0.0191		0.0133	0.02	0.0070	0.0088	0.01	0.01	0.01	0.01	0.0124	0.0080	0.0108
96	PERSONNEL EQUIPMENT	0.0000			0.0000		0.0000		0.0000	0.0000							0.0008
97	EXPLOSIVE DEVICES	0.0000			0.0000		0.0000		0.0000	0.0000					0.0003		0.0000
TOTALS		2.8729			2.8729	3.95	3.7297	1.57	3.1291	3.1972	1.44	1.36	1.55	2.02	1.7628	1.8652	1.8094

* NORMALIZED DATA

TABLE D-36 C-130E INTERMEDIATE BENCH CHECK TASKS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	2.4	3.6	4.8	5.9	62.0	8.2	13.0	10.6	11.2	7.3	12.2	13.6	17.1	13.0	17.6	19.1
12	COCKPIT AND INSTRUMENTS	21.3	31.6	25.1	29.3	98.2	19.3	20.7	23.3	24.5	22.3	21.8	24.6	27.7	21.8	24.7	25.1
13	LANDING GEAR	24.1	26.7	32.3	36.6	99.2	37.4	56.1	33.1	32.8	28.8	34.0	25.8	28.8	28.8	19.2	21.1
14	FLIGHT CONTROLS	4.2	4.5	4.6	4.8	18.1	5.1	19.8	5.5	5.7	8.1	5.0	5.6	7.0	4.8	5.1	5.6
15	TURBO PROP POWER PLANT	38.2	41.6	49.4	55.6	104.2	56.6	111.0	59.7	50.4	37.2	21.8	45.4	64.2	42.8	51.5	60.7
16	AUXILIARY POWER PLANT	2.9	3.0	3.2	3.3	9.7	3.6	7.5	3.9	4.0	4.2	2.8	4.2	6.3	4.3	5.1	3.9
17	HYDRAULIC POWER PLANT	40.6	34.0	31.7	28.8	41.0	25.8	52.3	30.7	31.0	40.3	28.7	34.7	27.8	25.3	30.2	28.3
18	HYDRAULIC POWER PLANT	6.7	7.6	8.5	9.4	28.4	11.3	21.3	12.1	14.0	10.0	14.6	16.1	17.6	17.0	19.3	13.1
19	AIR CONDITIONING, PRESSURIZATION	5.1	5.9	7.6	9.0	22.4	9.1	19.6	7.9	7.0	8.4	5.9	8.2	9.0	6.5	5.1	8.2
20	ELECTRICAL POWER SUPPLY	1.8	2.0	2.3	2.5	6.6	3.0	6.1	3.6	3.7	5.3	4.6	4.7	4.6	1.7	4.1	3.4
21	LIGHTING SYSTEM	5.0	5.4	6.0	6.5	17.9	7.6	15.9	8.6	9.1	17.1	9.4	8.8	13.0	5.9	2.6	8.4
22	HYDRAULIC AND PNEUMATIC	12.7	11.2	7.7	6.9	15.5	4.4	12.1	7.1	7.3	7.0	6.2	6.6	11.1	7.7	8.2	6.9
23	FUEL	2.6	2.8	3.0	3.2	6.6	3.7	6.9	1.0	4.4	5.3	3.4	4.0	6.1	4.1	6.2	3.6
24	ENGINE	1.3	1.6	1.8	2.1	8.3	2.6	6.9	3.1	3.4	5.0	2.6	3.8	5.2	3.7	4.6	3.1
25	MISC. UTILITIES	0.0	2.6	19.7	32.9	61.1	35.3	20.8	22.6	21.4	20.0	16.6	22.3	20.7	10.3	22.3	25.0
26	INSTRUMENTS	16.0	16.3	16.5	16.6	34.0	17.2	25.0	17.6	17.9	21.8	15.6	19.3	13.4	17.8	20.1	17.5
27	ADAPTOR	0.0	0.0	0.0	0.0	-	0.0	-	0.0	-	-	-	-	-	0.2	-	0.0
28	PAINTING / MAINT. & REPAIRING EQUIP.	2.8	3.1	3.4	3.7	18.3	6.4	17.5	8.0	5.3	4.9	3.9	4.8	7.5	4.4	8.5	4.9
29	W. COMMUNICATIONS	3.1	3.1	3.1	3.1	8.2	3.1	4.9	3.1	3.1	2.8	2.2	2.5	4.8	2.0	3.3	3.1
30	W. COMMUNICATIONS	10.4	11.6	14.2	16.2	27.6	16.6	20.0	16.6	14.4	13.6	9.3	13.7	10.6	8.1	14.6	14.6
31	W. COMMUNICATIONS	6.6	6.6	7.5	8.5	20.4	6.5	13.0	6.5	6.5	6.0	4.7	6.7	9.0	1.3	6.2	6.5
32	INTERFERENCE	4.5	5.5	8.0	10.0	29.3	10.3	19.8	8.4	8.3	12.3	2.9	3.0	6.6	3.3	6.0	8.1
33	W. COMMUNICATIONS	3.1	3.4	3.8	4.2	6.0	6.0	7.0	6.0	6.2	4.2	4.5	9.3	17.1	7.0	16.5	11.1
34	MISC. COMMUNICATIONS	0.6	0.3	0.3	0.3	1.6	0.4	1.3	0.3	0.3	0.4	0.2	0.1	0.1	0.1	0.1	0.3
35	W. COMMUNICATIONS	18.3	23.8	36.7	46.3	64.6	48.6	49.1	30.9	30.1	35.4	26.5	27.6	43.2	10.2	37.8	28.6
36	RADIO NAVIGATION	0.6	0.6	0.6	0.6	11.0	34.2	92.0	60.8	46.8	40.5	33.9	66.0	97.3	64.0	101.2	64.9
37	RADIO NAVIGATION	0.7	0.5	0.6	1.0	-	1.0	1.1	0.8	0.8	0.4	0.2	0.2	0.1	1.3	2.8	0.7
38	EMERGENCY EQUIPMENT	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	-	-	-	-	-
39	PERSONNEL EQUIPMENT	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	-	-	-	-	-
40	EXPLOSIVE DEVICES	0.0	0.0	0.0	0.0	-	0.0	-	0.0	0.0	-	-	-	-	-	-	-
TOTALS		1217.6	215.1	242.4	277.5	943.1	300.3	637.4	207.2	200.9	418.7	310.3	430.8	442.2	316.1	404.6	281.3

* NORMALIZED DATA

TABLE D-37! C-130E PERCENT DISTRIBUTION OF INTERMEDIATE BENCH CHECK TASKS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	0.92	1.14	1.26	1.54	0.61	2.16	2.64	2.74	2.81	1.75	3.03	3.08	3.20	4.11	3.61	2.94
12	COCKPIT AND FUELAGE	13.09	10.03	7.12	5.35	10.20	5.07	6.07	6.22	6.15	5.23	7.01	21.61	2.10	6.80	11.32	2.18
13	LANDING GEAR	9.72	8.47	9.17	9.20	10.20	9.81	8.80	8.65	8.22	6.90	10.25	5.68	8.68	6.84	9.07	8.46
14	FLIGHT CONTROLS	1.70	1.40	1.31	1.27	1.44	1.31	1.59	1.52	1.47	1.23	1.61	1.22	1.61	1.52	1.06	1.43
22	TURBO PROP POWER PLANT	15.42	13.20	14.02	14.23	10.82	14.88	12.56	13.09	12.63	8.86	7.93	10.32	12.52	13.15	10.63	12.94
24	AUXILIARY POWER PLANT	1.17	0.95	0.91	0.87	1.01	0.95	1.18	1.01	1.00	1.00	0.90	0.95	1.15	1.36	1.05	1.04
32	HYDRAULIC POWER	16.40	12.04	9.00	2.10	4.44	6.78	8.22	7.93	7.27	9.63	8.60	7.09	6.01	0.00	0.09	2.77
41	AIR CONDITIONING, PRESSURIZATION	2.71	2.41	2.61	2.49	2.55	2.97	3.36	3.28	3.51	4.30	4.71	3.64	3.81	5.30	2.94	3.25
42	ELECTRICAL POWER SUPPLY	2.06	1.87	2.16	2.36	2.33	2.39	2.49	2.04	1.96	2.25	1.90	1.66	1.95	1.42	1.05	2.10
44	LIGHTING SYSTEM	0.73	0.83	0.65	0.64	0.54	0.79	0.96	0.90	0.93	1.27	1.48	1.07	1.00	0.84	0.85	0.87
45	HYDRAULIC AND PNEUMATIC	2.02	1.71	1.70	1.72	1.64	2.00	2.49	2.22	2.28	4.04	3.03	2.00	2.81	1.07	1.57	2.15
46	FUEL	5.12	3.55	2.19	1.50	1.61	1.16	1.90	1.82	1.81	1.27	1.69	1.50	2.60	2.44	1.71	1.76
47	OXYGEN	1.01	0.89	0.85	0.85	0.58	0.97	1.04	0.76	1.10	1.27	1.10	0.91	1.32	1.30	1.07	0.92
49	MISC. UTILITIES	0.53	0.51	0.51	0.56	0.54	0.68	0.93	0.80	0.85	1.19	0.84	0.86	1.12	1.17	0.95	0.79
61	INSTRUMENTS	0.00	0.03	0.59	0.72	0.42	9.28	2.26	5.81	5.36	4.78	5.32	5.07	6.21	6.11	4.60	6.39
62	ANTENNA	6.46	5.17	4.68	4.40	3.53	4.52	3.92	4.55	4.49	5.21	5.00	4.39	2.90	5.63	4.15	4.47
63	NAVIGATIONAL AID, & RECORDING EQUIP.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	HF COMMUNICATIONS	1.13	0.94	0.94	0.94	1.00	1.16	1.95	1.29	1.33	1.17	1.26	1.09	1.62	1.39	1.75	1.25
65	VHF COMMUNICATIONS	1.25	0.98	0.88	0.82	0.85	0.82	0.77	0.80	0.78	0.67	0.71	0.57	0.97	0.63	0.68	0.79
66	UHF COMMUNICATIONS	1.20	3.68	4.03	4.29	2.86	4.36	3.14	3.77	3.61	3.25	3.00	3.12	4.00	2.56	3.01	3.73
67	INTERPHONE	2.63	2.05	1.84	1.72	2.17	1.71	2.04	1.68	1.61	1.15	1.51	1.22	1.95	0.41	1.28	1.64
68	IFF	1.82	1.75	2.27	2.65	3.04	2.71	3.13	2.17	2.08	2.84	0.93	0.88	1.21	1.04	1.03	2.07
69	EMERGENCY COMMUNICATIONS	1.35	1.08	1.08	1.11	0.52	1.31	0.44	1.50	1.55	1.00	1.45	2.11	3.70	2.47	3.20	1.56
70	MISC. COMMUNICATIONS	0.24	0.10	0.09	0.04	0.17	0.11	0.20	0.08	0.04	0.10	0.06	0.02	0.02	0.03	0.02	0.04
71	RADIO NAVIGATION	7.39	7.55	10.41	12.42	6.71	12.78	7.70	10.05	9.55	8.69	8.54	6.28	9.37	6.07	7.80	9.04
72	RADIO NAVIGATION	0.00	16.82	14.59	12.00	11.94	8.99	14.97	16.70	16.75	19.23	17.37	12.51	21.05	17.08	20.84	14.54
91	EMERGENCY EQUIPMENT	0.16	0.16	0.23	0.26	0.17	0.26	0.17	0.21	0.20	0.10	0.06	0.05	0.02	0.47	0.58	0.18
96	PERSONNEL EQUIPMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	EXPLOSIVE DEVICES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS		150.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE D-38 C-130E INTERMEDIATE BENCH CHECK TASKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				0.0255	.28	0.0237	.02	0.0280	0.0227	.01	.03	.03	.04	0.0267	0.0452	0.0491
12	COCKPIT AND FUELAGE				0.0079	.31	0.0529	.06	0.0455	0.0475	.04	.06	.22	.02	0.0515	0.1011	0.0950
13	LANDING GEAR				0.1505	.12	0.1043	.02	0.0226	0.0826	.01	.01	.01	.01	0.0537	0.0658	0.0582
14	FLIGHT CONTROLS				0.0200	.05	0.0127	.01	0.0104	0.0111	-	-	.01	.01	0.0129	0.0132	0.0146
15	TURBO PROP POWER PLANT				0.2407	.22	0.1836	.11	0.0958	0.0978	.11	.07	.04	.03	0.1184	0.1329	0.1270
16	AUXILIARY POWER PLANT				0.0113	.02	0.0104	-	0.0074	0.0078	-	-	-	-	0.0121	0.0132	0.0069
17	INTERMEDIATE PROPELLER				0.1160	.04	0.0146	.07	0.0580	0.0601	.06	.06	.06	.06	0.0713	0.1011	0.0711
18	AIR CONDITIONING, PRESSURIZATION				0.0407	.02	0.0327	.01	0.0248	0.0272	.01	.01	.01	.01	0.0479	0.0493	0.0229
19	HYDRAULIC SYSTEMS				0.0290	.05	0.0723	.01	0.0169	0.0151	.01	.01	.01	.01	0.0127	0.0132	0.0107
20	ELECTRICAL POWER SUPPLY				0.0100	.01	0.0087	.01	0.0046	0.0072	.01	.01	.01	.01	0.0048	0.0106	0.0090
21	LIGHTING SYSTEM				0.0231	.01	0.0220	.01	0.0163	0.0177	.02	.01	.01	.01	0.0184	0.0196	0.0150
22	HYDRAULIC AND PNEUMATIC				0.0212	.04	0.0127	-	0.0134	0.0147	-	-	-	-	0.0217	0.0216	0.0117
23	FUEL				0.0139	.01	0.0107	-	0.0019	0.0045	-	-	-	-	0.0116	0.0134	0.0045
24	OXYGEN				0.0091	.01	0.0075	.01	0.0019	0.0045	-	-	-	-	0.0104	0.0119	0.0062
25	MISC. UTILITIES				0.1425	.02	0.1020	.01	0.0475	0.0115	-	-	-	.01	0.0544	0.0575	0.0379
26	INSTRUMENTS				0.0719	.03	0.0497	.02	0.0333	0.0147	.01	.01	.01	.01	0.0502	0.0519	0.0312
27	AUTOPILLOT				0.0000	-	0.0000	-	0.0000	-	-	-	-	-	0.0004	0.0010	0.0001
28	NAVIGATION				0.0160	.03	0.0122	.01	0.0094	0.0103	.01	-	.01	.01	0.0121	0.0219	0.0126
29	WE COMMUNICATIONS				0.0134	.02	0.0090	.01	0.0019	0.0045	-	-	.01	.01	0.0058	0.0085	0.0076
30	WE COMMUNICATIONS				0.0701	.05	0.0460	.02	0.0276	0.0279	.02	.01	.02	.02	0.0328	0.0377	0.0312
31	WE COMMUNICATIONS				0.0281	.04	0.0188	.02	0.0173	0.0126	.01	.01	.01	.02	0.0037	0.0100	0.0173
32	WE COMMUNICATIONS				0.0433	.04	0.0298	.02	0.0159	0.0161	.02	-	.01	.01	0.0093	0.0129	0.0216
33	WE COMMUNICATIONS				0.0182	.01	0.0144	.02	0.0110	0.0120	.02	-	.01	.02	0.0270	0.0400	0.0111
34	WE COMMUNICATIONS				0.0013	-	0.0012	-	0.0004	0.0005	-	-	-	-	0.0003	0.0003	0.0004
35	MISC. COMMUNICATIONS				0.2031	.17	0.1406	.05	0.0735	0.0729	.05	.04	.04	.06	0.0541	0.0975	0.0400
36	RADIO NAVIGATION				0.1961	.30	0.0948	.05	0.1110	0.1196	.06	.07	.04	.13	0.1123	0.2611	0.1353
37	RADIO NAVIGATION				0.0013	-	0.0012	-	0.0004	0.0005	-	-	-	-	0.0003	0.0003	0.0004
38	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
39	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
40	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
41	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
42	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
43	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
44	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
45	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
46	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
47	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
48	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
49	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
50	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
51	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
52	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
53	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
54	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
55	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
56	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
57	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
58	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
59	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
60	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
61	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
62	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
63	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
64	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
65	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
66	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
67	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
68	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
69	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
70	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
71	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
72	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
73	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
74	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
75	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
76	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
77	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
78	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
79	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
80	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
81	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
82	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
83	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
84	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
85	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
86	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
87	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
88	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
89	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
90	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
91	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
92	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
93	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
94	WE COMMUNICATIONS				0.0000	-	0.0000	-	0.0000	0.0000	-	-	-	-	0.0000	0.0000	0.0000
95	WE COMMUNICATIONS				0.0000	-	0										

TABLE D-39 C-130E INTERMEDIATE BENCH CHECK ONLY TASKS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971*	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	0.1	0.1	0.2	0.2	0.0	0.3	2.3	0.4	0.4	0.2	0.1	0.1	0.2	0.2	0.5	0.4
12	COCKPIT AND FUSELAGE	1.4	1.3	1.0	0.8	10.2	0.8	2.0	1.0	1.0	0.7	0.5	2.4	0.8	0.8	0.5	1.1
13	LANDING GEAR	2.7	3.0	3.2	4.2	7.4	4.2	9.8	3.8	3.7	7.8	2.4	2.4	2.2	2.4	2.1	3.0
14	FLIGHT CONTROLS	0.6	0.6	0.6	0.7	2.2	0.7	2.8	0.8	0.8	1.2	0.5	0.7	0.8	0.7	0.7	0.8
15	TURBO PROP POWER PLANT	1.8	2.0	2.4	2.7	5.0	2.8	6.2	2.5	2.7	2.6	1.8	2.1	2.5	1.9	1.9	2.5
16	AUXILIARY POWER PLANT	0.2	0.2	0.2	0.2	1.1	0.2	0.7	0.2	0.2	0.4	0.2	0.2	0.3	0.2	0.1	0.2
17	HYDRAULIC PROPPELLER	5.5	5.1	4.3	3.6	12.6	3.6	9.0	4.2	4.2	0.3	4.7	4.1	1.8	1.1	1.2	4.1
18	AIR CONDITIONING, PRESSURIZATION	0.6	0.6	0.7	0.8	5.4	1.0	3.7	1.1	1.2	1.2	0.8	1.3	1.6	1.1	1.2	1.1
19	ELECTRICAL POWER SUPPLY	1.2	1.4	1.8	2.1	4.2	2.2	6.5	1.9	1.8	2.0	1.2	2.4	2.3	0.6	0.7	1.9
20	LIGHTING SYSTEM	0.4	0.4	0.5	0.5	1.4	0.6	1.7	0.7	0.8	0.7	0.8	0.7	1.0	0.7	0.8	0.7
21	HYDRAULIC AND PNEUMATIC	0.9	1.0	1.1	1.2	3.9	1.4	4.8	1.6	1.7	2.5	1.3	1.2	3.0	1.4	1.1	1.6
22	FUEL	0.5	0.4	0.3	0.2	0.6	0.2	1.8	0.3	0.3	0.5	0.1	0.2	0.4	0.2	0.1	0.3
23	OXYGEN	0.1	0.1	0.1	0.1	0.1	0.2	0.6	0.0	0.2	0.2	0.1	0.2	0.4	0.2	0.3	0.2
24	MISC. UTILITIES	0.1	0.2	0.2	0.2	0.6	0.2	1.4	0.3	0.3	0.3	0.2	0.4	0.4	0.5	0.5	0.3
25	HYDRAULICS	0.0	0.3	2.5	4.2	7.6	4.5	3.5	3.8	2.7	1.8	1.2	1.6	3.2	3.0	2.6	2.9
26	AUTOMATION	4.7	4.7	4.8	4.9	9.4	6.0	6.3	6.2	6.2	7.0	4.4	4.8	6.0	6.0	6.2	6.1
27	NAV. FUNCTION, JMW, & RECORDING EQUIP.	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	IF COMMUNICATIONS	1.3	1.4	1.6	1.7	4.2	2.0	5.1	2.2	2.4	2.2	1.8	1.9	3.3	3.4	4.1	2.2
29	HF COMMUNICATIONS	1.2	1.2	1.2	1.2	2.4	1.2	1.7	1.2	1.2	1.0	0.8	0.8	1.6	1.6	0.9	1.2
30	HF COMMUNICATIONS	4.4	4.9	4.0	6.9	4.7	7.0	7.9	6.3	6.1	5.4	3.8	4.9	7.7	6.4	6.2	6.2
31	HF COMMUNICATIONS	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.1	1.1	1.2	1.0	1.0	1.3
32	INTERPHONE	1.8	2.0	2.0	2.7	4.7	3.8	7.7	3.1	3.0	4.5	1.0	1.1	2.3	1.8	2.3	3.0
33	IFF	1.8	1.9	2.2	2.4	4.7	2.8	1.6	3.3	3.5	1.8	2.4	4.2	6.5	6.8	8.2	3.3
34	EMERGENCY COMMUNICATIONS	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
35	MISC. COMMUNICATIONS	6.6	8.6	13.2	16.9	12.1	17.8	16.3	14.0	12.7	11.5	8.6	8.7	15.6	13.5	14.4	13.9
36	RADIO NAVIGATION	0.6	2.7	21.0	19.2	27.3	14.5	37.7	25.7	28.3	25.0	19.4	20.0	37.1	40.0	47.6	24.1
37	NAV. NAVIGATION	0.2	0.3	0.4	0.4	-	0.6	-	0.5	0.4	-	0.0	-	0.0	1.1	1.1	0.5
38	EMERGENCY EQUIPMENT	0.0	0.0	0.0	0.0	-	-	-	-	-	-	-	-	-	-	-	-
39	PERSONAL EQUIPMENT	0.0	0.0	0.0	0.0	-	-	-	-	-	-	-	-	-	-	-	-
40	EXPLOSIVE DEVICES	0.0	0.0	0.0	0.0	-	-	-	-	-	-	-	-	-	-	-	-
TOTALS		39.2	65.5	76.1	89.5	133.1	78.5	142.9	84.3	86.9	94.3	50.4	68.5	102.6	94.5	106.7	82.7

* NORMALIZED DATA

TABLE D-40 C-130E PERCENT DISTRIBUTION OF INTERMEDIATE BENCH CHECK ONLY TASKS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	0.26	0.13	0.27	0.23	0.13	0.30	1.64	0.17	0.46	0.31	0.17	0.15	0.13	0.31	0.42	0.48
12	COCKPIT AND FUSelage	3.57	1.10	1.32	0.40	7.12	1.02	1.40	1.10	1.15	0.74	0.06	4.06	0.78	0.85	0.86	1.22
13	LANDING GEAR	6.09	4.50	4.23	5.22	5.17	5.25	5.06	4.51	4.25	0.22	4.11	2.50	2.14	2.54	1.92	4.59
14	FLIGHT CONTROLS	1.63	0.92	0.80	0.67	1.44	0.09	1.06	0.85	0.82	1.27	0.06	1.82	0.78	0.74	0.65	0.97
22	TURBO PROP POWER PLANT	4.59	2.06	2.20	3.25	2.49	3.67	4.24	2.97	2.75	2.76	1.71	3.07	2.83	2.01	1.70	3.02
24	AUXILIARY POWER PLANT	0.61	0.31	0.27	0.23	0.72	0.25	0.45	0.24	0.35	0.42	0.34	0.49	0.29	0.21	0.09	0.74
32	HYDRAULIC PROPPELLER	16.03	2.29	6.73	4.47	12.20	4.46	6.20	4.98	4.83	0.00	0.06	6.99	1.75	1.16	1.22	4.96
41	AIR CONDITIONING, PRESSURIZATION	1.83	0.92	0.83	0.99	9.77	1.27	2.55	1.20	1.28	1.22	1.37	1.00	1.56	1.16	1.59	1.33
42	ELECTRICAL POWER SUPPLY	3.04	2.14	2.40	2.61	2.84	2.80	5.55	2.25	2.07	2.12	2.05	3.50	2.24	0.43	0.66	2.30
44	LIGHTING SYSTEM	1.02	0.51	0.67	0.62	0.98	0.76	1.19	0.83	0.92	0.74	1.37	1.02	0.97	0.74	0.75	0.85
45	HYDRAULIC AND PNEUMATIC	2.30	1.53	1.46	1.49	2.73	1.78	3.36	1.90	1.96	2.65	2.23	1.75	2.92	1.48	1.02	1.93
46	FUEL	1.28	0.61	0.40	0.35	0.35	0.25	0.70	0.36	0.25	0.22	0.17	0.29	0.39	0.21	0.09	0.36
47	OXYGEN	0.26	0.18	0.13	0.12	0.07	0.25	0.42	0.00	0.22	0.21	0.17	0.29	0.29	0.21	0.20	0.21
49	MISC. UTILITIES	0.26	0.31	0.27	0.25	0.42	0.25	0.98	0.36	0.35	0.32	0.34	0.64	0.39	0.53	0.47	0.36
51	INSTRUMENTS	0.00	0.48	3.23	5.22	5.31	5.72	2.45	3.32	3.11	1.81	2.05	2.34	3.12	2.11	2.41	3.11
52	AUTOPILLOT	11.99	7.18	6.39	6.09	6.57	6.37	4.41	6.17	5.68	7.42	7.53	7.01	5.85	5.29	3.94	6.17
55	NAVIGATION AID. & RECORDING EQUIP.	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
61	HF COMMUNICATIONS	3.32	2.14	2.13	2.11	2.94	2.55	3.57	2.61	2.76	2.33	3.08	2.77	2.22	2.59	2.84	2.66
62	VHF COMMUNICATIONS	3.06	1.83	1.60	1.49	1.48	1.63	1.19	1.42	1.38	1.04	1.37	1.17	1.56	1.59	0.84	1.45
63	UHF COMMUNICATIONS	11.22	7.48	7.99	0.57	2.28	0.92	6.53	7.35	7.02	6.73	6.51	7.16	7.50	6.77	6.81	7.50
64	INTERPHONE	3.32	1.98	1.73	1.61	0.91	1.64	2.45	1.64	1.60	1.48	1.08	1.61	1.17	1.06	0.94	1.57
65	IFF	4.08	2.05	3.99	4.00	3.28	4.84	0.99	3.68	3.45	4.27	1.71	1.61	2.24	1.90	2.16	3.63
66	EMERGENCY COMMUNICATIONS	4.59	2.90	2.93	2.98	1.12	3.57	1.12	3.91	4.03	1.91	4.11	6.12	6.34	7.19	7.69	3.99
69	MISC. COMMUNICATIONS	0.00	0.00	0.00	0.00	0.11	0.00	0.11	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00
71	RADIO NAVIGATION	16.84	13.13	17.68	20.99	9.46	22.29	10.71	16.61	15.77	12.20	14.73	12.70	15.20	14.27	13.50	15.81
72	RAAR NAVIGATION	0.00	34.35	29.03	23.45	19.08	14.47	28.38	30.49	32.57	20.76	31.22	29.20	36.16	42.28	41.61	29.14
91	EMERGENCY EQUIPMENT	0.61	0.46	0.53	0.75	-	0.76	-	0.59	0.46	-	-	-	-	-	-	-
94	PERSONNEL EQUIPMENT	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-
97	EXPLOSIVE DEVICES	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL S		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

*NORMALIZED DATA

TABLE D-41 C-130E INTERMEDIATE BENCH CHECK ONLY TASKS PER SORTIE

SY#	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
10.	AIRFRAME				0.0009	0.029	0.0029	0.0012	0.0008	0.0009	0.001	0.003	0.003	0.004	0.0006	0.0013	0.0041
11	COCKPIT AND FUSelage				0.0019	0.012	0.0021	0.0014	0.0019	0.0019	0.0016	0.013	0.006	0.018	0.0023	0.0015	0.0063
12	LANDING GEAR				0.0182	0.001	0.0121	0.005	0.0072	0.0072	0.0121	0.047	0.042	0.048	0.0048	0.0034	0.0122
13	FLIGHT CONTROLS				0.0020	0.0020	0.0020	0.0032	0.0015	0.0016	0.0016	0.015	0.018	0.018	0.0020	0.0018	0.0030
14	TURBO PROP POWER PLANT				0.0117	0.006	0.0081	0.017	0.0047	0.0047	0.007	0.023	0.054	0.054	0.0044	0.0044	0.0080
22	AUXILIARY POWER PLANT				0.0009	0.0012	0.0006	0.0012	0.0004	0.0006	0.0009	0.006	0.003	0.007	0.0006	0.0003	0.0010
24	INTERIOR PROPELLER				0.0156	0.023	0.0101	0.0170	0.0079	0.0081	0.012	0.11	0.106	0.039	0.031	0.031	0.0156
32	AIR CONDITIONING, PRESSURIZATION				0.0035	0.022	0.0029	0.0020	0.0021	0.0023	0.0026	0.022	0.014	0.017	0.0031	0.0044	0.0052
41	ELECTRICAL POWER SUPPLY				0.0091	0.017	0.0044	0.0123	0.0038	0.0038	0.0044	0.011	0.042	0.047	0.0017	0.0018	0.0049
42	FLIGHTING SYSTEM				0.0022	0.010	0.0017	0.0022	0.0013	0.0016	0.0016	0.022	0.018	0.029	0.0020	0.0021	0.0024
44	HYDRAULIC AND PNEUMATIC				0.0009	0.021	0.0006	0.0019	0.0006	0.0006	0.0006	0.003	0.003	0.007	0.0006	0.0002	0.0010
45	FUEL				0.0004	0.004	0.0006	0.0011	0.0000	0.0004	0.0004	0.004	0.003	0.005	0.0004	0.0008	0.0005
47	OTHER				0.0009	0.0025	0.0006	0.0027	0.0006	0.0006	0.0006	0.004	0.004	0.012	0.0014	0.0011	0.0012
49	HYDRO-PNEUMATICS				0.0182	0.012	0.0130	0.0066	0.0053	0.0053	0.0039	0.033	0.041	0.093	0.0056	0.0067	0.0095
51	HYDRO-PNEUMATICS				0.0182	0.012	0.0130	0.0066	0.0053	0.0053	0.0039	0.033	0.041	0.093	0.0056	0.0067	0.0095
52	AUTOPILLOT				0.0182	0.012	0.0130	0.0066	0.0053	0.0053	0.0039	0.033	0.041	0.093	0.0056	0.0067	0.0095
55	INSTRUMENTS, APPL. & RECORDING EQUIP.				0.0074	0.0173	0.0059	0.0046	0.0042	0.0047	0.0048	0.050	0.019	0.091	0.0046	0.0104	0.0076
61	HYDRO-PNEUMATICS				0.0052	0.0099	0.0035	0.0032	0.0023	0.0023	0.0022	0.022	0.021	0.047	0.0015	0.0023	0.0030
62	HYDRO-PNEUMATICS				0.0099	0.0173	0.0059	0.0046	0.0042	0.0047	0.0048	0.050	0.019	0.091	0.0046	0.0104	0.0076
63	HYDRO-PNEUMATICS				0.0056	0.0053	0.0034	0.0046	0.0035	0.0035	0.0031	0.031	0.028	0.035	0.0028	0.0028	0.0034
64	HYDRO-PNEUMATICS				0.0160	0.019	0.0110	0.016	0.0019	0.0019	0.0019	0.028	0.028	0.047	0.0051	0.0059	0.0095
65	HYDRO-PNEUMATICS				0.0104	0.0066	0.0081	0.0030	0.0042	0.0048	0.0048	0.047	0.048	0.099	0.0192	0.0212	0.0005
66	HYDRO-PNEUMATICS				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
69	HYDRO-PNEUMATICS				0.0172	0.0097	0.0006	0.0089	0.0055	0.0055	0.0055	0.029	0.025	0.041	0.0381	0.0372	0.042
71	HYDRO-PNEUMATICS				0.0031	0.0122	0.0019	0.0113	0.0166	0.0166	0.0166	0.039	0.016	0.040	0.1128	0.1228	0.0719
72	HYDRO-PNEUMATICS				0.0026	0.0000	0.0017	0.0017	0.0009	0.0009	0.0009	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
91	HYDRO-PNEUMATICS				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
92	HYDRO-PNEUMATICS				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
97	EXPLOSIVE DEVICES				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
TOTALS					0.3406	0.548	0.2249	0.270	0.1993	0.1806	0.203	0.162	0.177	0.296	0.2648	0.2793	0.2401

* NORMALIZED DATA

TABLE D-42 C-130E INTERMEDIATE BENCH CHECK AND REPAIR TASKS PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	2.1	2.2	4.2	4.2	69.9	7.2	9.2	10.2	5.8	11.2	12.4	15.0	11.0	15.6	9.2
12	COCKPIT AND FUELAGE	31.0	28.6	32.2	10.2	82.5	17.4	21.5	21.8	18.8	20.6	29.7	7.2	17.5	23.5	25.4
13	LANDING GEAR	2.4	2.7	4.5	5.1	28.9	5.2	7.0	6.5	4.2	2.5	1.9	2.2	4.0	3.1	4.6
14	FLIGHT CONTROLS	1.7	1.8	1.8	1.8	10.9	2.8	2.4	2.2	1.9	2.2	2.4	3.0	1.8	2.0	2.2
15	TURBO PROP POWER PLANT	10.1	19.7	23.4	26.3	65.6	26.7	19.6	24.0	47.8	24.8	12.0	5.4	7.0	9.7	21.0
24	AUXILIARY POWER PLANT	0.7	0.7	0.8	0.8	4.2	0.9	1.7	1.0	1.0	0.8	1.0	1.0	1.0	0.9	0.9
25	HYDRAULIC PRESSURE	29.5	27.6	23.0	19.5	20.1	10.8	20.6	22.3	27.8	19.2	24.6	20.4	19.2	22.0	22.1
41	AIR CONDITIONING, PRESSURIZATION	0.8	1.0	1.1	1.2	5.2	1.4	2.7	1.2	1.8	2.4	2.0	1.2	1.5	1.7	1.7
42	ELECTRICAL POWER SUPPLY	2.4	2.8	3.6	4.3	10.5	4.2	4.6	3.2	3.8	1.2	2.3	1.8	4.9	10.5	3.9
43	LIGHTING SYSTEM	1.0	1.1	1.2	1.3	2.7	1.6	2.7	1.9	2.4	2.5	2.8	2.4	1.6	2.0	1.8
44	HYDRAULIC AND PNEUMATIC	1.5	2.1	2.3	2.5	3.0	2.9	6.8	3.2	8.0	4.5	3.4	3.9	2.2	2.3	3.2
45	FUEL	1.4	1.2	0.9	0.6	0.5	0.5	1.4	0.8	0.3	0.5	0.4	0.8	0.7	0.5	0.8
47	OXYGEN	0.2	0.2	0.2	0.2	0.5	0.2	1.4	0.1	0.8	0.2	0.2	0.2	0.2	0.2	0.2
49	HISC, UTILITIES	0.2	0.4	0.5	0.6	3.0	0.7	3.0	0.8	1.1	0.7	0.9	1.2	0.9	1.0	0.8
51	INSTRUMENTS	0.0	0.2	1.8	3.0	8.5	3.2	2.0	2.1	0.8	0.8	1.5	1.8	1.7	1.6	2.1
52	NAVIGATION	3.9	4.0	4.0	4.0	7.6	4.2	9.8	4.3	4.9	3.2	5.1	4.7	3.5	2.6	4.3
55	NAVIGATION, REPAIR & RECORDING EQUIP.	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
56	HF COMMUNICATIONS	1.5	1.4	1.9	1.7	7.8	2.0	6.4	2.3	2.2	1.5	2.4	3.0	2.1	2.2	2.3
61	VHF COMMUNICATIONS	1.9	1.9	7.2	1.9	5.6	1.9	2.9	1.9	1.6	1.2	1.5	2.3	2.2	2.0	1.9
62	UHF COMMUNICATIONS	6.2	5.9	6.5	6.2	12.8	8.4	10.3	7.4	7.2	4.5	7.3	8.4	5.4	6.4	7.4
63	INTERPHONE	5.5	5.5	3.4	5.5	10.4	5.5	8.9	5.5	4.0	2.2	5.2	7.3	5.6	4.8	5.5
64	INTERPHONE	1.9	2.4	1.7	4.3	14.2	4.4	10.0	3.6	6.7	1.2	0.9	1.6	1.1	1.1	3.5
65	INTERPHONE	1.4	1.5	0.2	1.9	3.1	2.2	0.7	2.6	1.0	1.3	3.7	8.4	3.3	6.3	2.6
66	INTERPHONE	2.4	0.2	20.3	0.2	0.9	0.2	1.0	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.2
69	HISC, COMMUNICATIONS	10.1	13.2	25.3	26.0	40.9	26.9	27.1	21.5	20.7	19.4	14.8	20.5	15.3	16.8	21.4
71	RADIO NAVIGATION	0.8	26.2	28.1	22.4	73.0	16.9	46.7	30.0	40.1	26.0	24.8	42.8	35.5	37.8	28.0
72	RADIO NAVIGATION	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.3	0.0	0.8	0.1	0.0	0.0	0.0
91	EMERGENCY EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
96	PERSONAL EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97	EXPLOSIVE DEVICES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS		126.3	156.6	167.1	166.9	497.7	145.0	200.6	170.8	215.6	152.0	228.2	171.2	181.9	216.7	166.1

* NORMALIZED DATA

TABLE D-43 C-130E PERCENT DISTRIBUTION OF INTERMEDIATE BENCH CHECK AND REPAIR TASKS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966*	1967*	1968*	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	1.43	2.04	2.49	3.12	14.04	4.34	2.94	6.16	5.55	2.69	7.32	6.51	6.26	7.77	7.89	5.11
12	COCKPIT AND FUSELAGE	24.54	18.28	12.92	10.90	16.48	19.49	10.48	12.19	12.02	8.72	13.40	29.83	4.80	11.89	24.22	14.10
13	LANDING GEAR	2.49	2.36	2.76	3.06	5.01	3.14	2.59	2.57	2.50	1.95	2.29	0.84	1.73	2.43	1.52	2.53
14	FLIGHT CONTROLS	1.33	1.15	1.10	1.14	2.12	1.21	0.80	1.22	1.22	0.83	1.50	1.02	1.75	1.18	0.92	1.22
22	TURBO PROP POWER PLANT	14.33	12.88	14.35	15.76	13.18	16.10	19.83	12.42	12.95	22.17	16.21	6.17	5.49	5.12	4.48	12.32
24	AUXILIARY POWER PLANT	0.55	0.45	0.59	0.49	0.83	0.53	0.52	0.54	0.54	0.46	0.39	0.44	0.58	0.64	0.42	0.50
32	HYDRAULIC POWER	23.36	12.42	16.10	11.48	4.04	11.34	12.84	12.47	12.24	12.89	13.01	10.92	11.91	12.44	14.77	12.27
41	AIR CONDITIONING, PRESSURIZATION	0.83	0.69	0.67	0.72	1.04	0.84	1.22	0.95	0.98	1.16	1.57	0.89	0.99	0.99	0.78	0.84
42	ELECTRICAL POWER SUPPLY	1.90	1.79	2.21	2.69	2.19	2.59	1.53	2.07	2.01	1.76	1.11	1.02	1.06	0.93	0.85	1.12
43	ELECTRICAL POWER SUPPLY	0.79	0.70	0.74	0.78	0.54	0.97	0.90	1.06	1.09	1.11	1.63	1.24	1.40	1.06	0.92	1.09
44	LIGHTING SYSTEM	1.50	1.34	1.61	1.60	0.40	1.72	2.26	1.85	1.90	2.71	2.08	1.47	2.28	1.45	1.06	1.78
45	HYDRAULIC AND PNEUMATIC	1.11	0.83	0.65	0.36	1.71	0.20	0.47	0.45	0.44	0.37	0.20	0.18	0.47	0.46	0.23	0.41
46	FUEL	0.18	0.12	0.12	0.19	0.10	0.18	0.47	0.04	0.22	0.37	0.20	0.09	0.18	0.13	0.14	0.17
47	OXIGEN	0.32	0.26	0.31	0.36	0.40	0.42	1.00	0.45	0.49	0.51	0.48	0.40	0.70	0.59	0.46	0.41
48	MISC. UTILITIES	0.00	0.13	1.10	1.00	1.11	1.29	0.67	1.17	1.09	0.37	0.59	0.67	1.05	1.12	0.74	1.17
51	INSTRUMENTS	3.09	2.55	2.45	2.40	1.51	2.53	3.26	2.40	2.39	2.27	2.16	2.26	2.74	2.20	1.20	2.29
52	AUTOPILLOT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	NAVIGATION AID. & RECORDING EQUIP.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	NAVIGATION AID. & RECORDING EQUIP.	1.03	0.89	0.98	1.02	1.07	1.21	2.12	1.29	1.26	1.02	0.98	1.01	1.75	2.04	1.52	1.28
61	WIF COMMUNICATIONS	1.50	1.21	1.16	1.14	1.13	1.15	0.94	1.04	1.03	0.70	0.78	0.67	1.34	1.45	0.92	1.06
62	WIF COMMUNICATIONS	4.20	3.77	4.41	4.91	2.97	3.07	3.43	4.14	3.97	3.54	2.94	2.24	4.90	3.55	2.95	4.11
63	WIF COMMUNICATIONS	4.38	3.51	3.37	3.30	2.09	3.32	2.94	3.08	2.99	1.86	2.16	2.35	4.26	3.69	2.22	3.05
64	INTERPHONE	1.90	1.83	2.08	2.48	2.08	2.65	2.33	2.01	1.96	1.13	0.78	0.40	0.93	0.72	0.51	1.94
65	IFF	1.11	0.94	1.04	1.10	0.62	1.32	0.23	1.45	1.52	0.46	0.85	1.64	4.90	2.17	2.91	1.44
66	EMERGENCY COMMUNICATIONS	0.22	0.12	0.12	0.12	0.18	0.12	0.33	0.11	0.11	0.06	0.07	0.04	0.04	0.00	0.05	0.11
69	MISC. COMMUNICATIONS	0.00	0.43	12.45	15.58	8.22	16.22	9.02	12.02	11.48	9.60	9.41	6.87	11.97	10.07	7.65	11.40
71	NAVIGATION	0.00	15.73	15.51	13.42	16.67	10.19	16.54	16.78	17.90	18.60	16.99	11.01	24.99	23.37	17.44	16.55
72	NAVIGATION	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00
81	EMERGENCY EQUIPMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	PERSONNEL EQUIPMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	EXPLOSIVE DEVICES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	TOTALS	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMAN 1210 DATA

TABLE D-44 C-130E INTERMEDIATE BENCH CHECK AND REPAIR TASKS PER SORTIE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME	0.0228			0.0228	.24	0.0208	.02	0.0128	0.0198	.02	.01	.04	.06	0.0222	0.0402	0.0928
12	COCKPIT AND FUSELAGE	0.0288			0.0288	.40	0.0202	.07	0.0412	0.0429	.05	.06	.24	.02	0.0426	0.1356	0.1008
13	LANDING GEAR	0.0221			0.0221	.11	0.0158	.11	0.0097	0.0089	.06	.10	.07	.07	0.0113	0.0089	0.0701
14	FLIGHT CONTROLS	0.0042			0.0042	.07	0.0048	.02	0.0042	0.0045	.02	.01	.02	.02	0.0051	0.0052	0.0156
15	TURBO FAN POWER PLANT	0.1178			0.1178	.43	0.0772	.21	0.0454	0.0442	.04	.06	.12	.12	0.0220	0.0350	0.1229
16	AUXILIARY POWER PLANT	0.0035			0.0035	.04	0.0026	.02	0.0019	0.0019	.01	.01	.01	.02	0.0028	0.0023	0.0104
17	HYDRAULIC POWER	0.0016			0.0016	.18	0.0043	.10	0.0041	0.0047	.09	.07	.09	.08	0.0041	0.0026	0.0810
18	AIR CONDITIONING, PRESSURIZATION	0.0052			0.0052	.12	0.0040	.01	0.0032	0.0035	.04	.04	.04	.06	0.0042	0.0044	0.0298
19	ELECTRICAL POWER SUPPLY	0.0146			0.0146	.09	0.0173	.03	0.0070	0.0072	.02	.02	.02	.01	0.0138	0.0271	0.0246
20	LIGHTING SYSTEM	0.0056			0.0056	.02	0.0046	.01	0.0036	0.0039	.01	.01	.01	.01	0.0045	0.0032	0.0071
21	HYDRAULIC AND PNEUMATIC	0.0108			0.0108	.07	0.0064	.03	0.0042	0.0048	.04	.03	.02	.04	0.0062	0.0059	0.0232
22	FUEL	0.0026			0.0026	.06	0.0034	.02	0.0018	0.0018	.02	.02	.02	.02	0.0020	0.0023	0.0130
23	WATER	0.0012			0.0012	.02	0.0009	.01	0.0007	0.0008	.01	.01	.01	.01	0.0006	0.0006	0.0048
24	MISC. UTILITIES	0.0016			0.0016	.03	0.0020	.01	0.0018	0.0017	.01	.01	.01	.01	0.0016	0.0016	0.0083
25	INSTRUMENTS	0.0130			0.0130	.33	0.0095	.04	0.0010	0.0019	.04	.06	.06	.06	0.0048	0.0041	0.0535
26	ACTUATORS	0.0173			0.0173	.14	0.0121	.05	0.0081	0.0085	.05	.04	.05	.04	0.0094	0.0067	0.0372
27	NAVIGATION AID, & RECORDING EQUIP.	0.0000			0.0000		0.0000		0.0000	0.0000					0.0000	0.0000	0.0000
28	W/ COMMUNICATIONS	0.0074			0.0074	.08	0.0058	.02	0.0043	0.0048	.01	.01	.01	.02	0.0047	0.0045	0.0163
29	W/ UTILITIES	0.0042			0.0042	.03	0.0035	.01	0.0034	0.0037	.01	.01	.01	.01	0.0042	0.0032	0.0094
30	W/ COMMUNICATIONS	0.0355			0.0355	.11	0.0243	.04	0.0140	0.0142	.03	.03	.04	.05	0.0152	0.0163	0.0350
31	W/ COMMUNICATIONS	0.0238			0.0238	.08	0.0159	.03	0.0104	0.0107	.01	.01	.01	.02	0.0158	0.0124	0.0274
32	INTERPHONE	0.0146			0.0146	.12	0.0127	.04	0.0068	0.0070	.03	.01	.01	.02	0.0031	0.0028	0.0260
33	W/	0.0042			0.0042	.02	0.0041	.01	0.0041	0.0041	.01	.01	.02	.05	0.0093	0.0163	0.0122
34	EMERGENCY COMMUNICATIONS	0.0009			0.0009	.01	0.0006		0.0004	0.0004					0.0000	0.0003	0.0011
35	W/ COMMUNICATIONS	0.1178			0.1178	.27	0.0777	.09	0.0404	0.0409	.04	.07	.07	.13	0.0431	0.0428	0.0893
36	RADIO NAVIGATION	0.0770			0.0770	.47	0.0188	.18	0.0167	0.0438	.18	.15	.16	.28	0.1001	0.0975	0.1573
37	INSTRUMENT EQUIPMENT	0.0000			0.0000		0.0000		0.0000	0.0000					0.0000	0.0000	0.0000
38	PERSONNEL EQUIPMENT	0.0000			0.0000		0.0000		0.0000	0.0000					0.0000	0.0000	0.0000
39	EXPOSURE DEVICES	0.0000			0.0000		0.0000		0.0000	0.0000					0.0000	0.0000	0.0000
40	TOTALS	0.7227			0.7227	3.96	0.4792	1.22	0.3379	0.3646	.93	.07	1.16	1.36	0.4284	0.5591	1.0760

* NORMALIZED DATA

TABLE D-45

ALM 631 WORKS

TABLE D-46 C-130E PERCENT DISTRIBUTION OF INTERMEDIATE REPAIR ONLY TASKS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	0.23	0.20	0.17	0.15	0.22	0.22	1.03	0.48	0.57	0.40	0.58	0.16	0.27	0.26	0.20	0.48
12	COCKPIT AND FUSELAGE	6.02	3.97	2.77	0.92	4.21	1.94	0.59	2.38	2.27	1.13	1.46	4.30	9.51	3.28	0.63	2.78
13	LANDING GEAR	10.85	8.31	8.82	9.28	6.51	9.56	2.11	8.41	8.02	4.76	4.37	2.74	3.13	12.99	18.61	8.53
14	FLIGHT CONTROLS	0.46	0.60	0.52	0.48	0.90	0.49	0.74	0.48	0.62	1.38	0.58	0.65	0.54	0.26	0.20	0.48
22	THIRD PROP POWER PLANT	28.60	19.25	19.90	20.64	4.21	21.23	2.37	18.73	18.37	4.35	2.33	43.42	13.86	13.64	19.88	19.00
24	AUXILIARY POWER PLANT	0.23	0.20	0.17	0.16	1.20	0.32	0.15	0.32	0.21	0.79	0.58	0.27	0.27	0.16	0.00	0.32
26	HYDRAULIC PROPPELLER	0.88	6.75	4.15	3.36	11.13	3.74	6.81	3.81	3.23	10.67	3.79	4.38	2.85	1.30	0.63	3.70
41	AIR CONDITIONING, PRESSURIZATION	0.57	0.40	0.35	0.32	3.76	0.49	1.63	0.40	0.57	0.72	1.17	0.41	0.27	0.26	0.20	0.48
42	ELECTRICAL POWER SUPPLY	2.29	1.58	2.08	2.40	1.31	2.27	5.48	2.06	2.02	1.98	2.92	2.19	2.17	0.91	0.10	2.09
44	LIGHTING SYSTEM	0.57	0.40	0.35	0.32	3.76	0.49	1.63	0.40	0.57	0.72	1.17	0.41	0.27	0.26	0.20	0.48
45	HYDRAULIC AND PNEUMATIC	1.15	0.99	0.87	0.96	2.41	0.97	5.04	1.11	0.62	0.89	1.46	0.56	0.41	0.52	0.39	0.64
46	FUEL	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.40	0.25	0.27	0.00	0.00	0.00	0.00
47	OUTCAB	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	MISC. UTIL UTILS	0.00	0.00	0.00	0.00	0.00	0.16	0.59	0.16	0.16	0.20	0.00	0.14	0.14	0.13	0.20	0.16
51	INSTRUMENTS	0.00	0.20	1.56	2.10	3.82	2.59	1.19	1.59	1.55	0.40	0.58	0.82	1.49	1.17	0.98	1.61
52	ANTICIPUL	6.88	4.96	4.33	4.00	6.11	4.21	4.00	4.29	4.19	7.91	7.00	4.11	4.62	3.12	1.67	4.35
55	PAUTIFICATION, PAUL, & RECORDING EQUIP.	0.00	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.00	2.94	4.08	0.00	0.00	0.00	0.00	0.00
61	HE COORDINATIONS	2.58	1.98	1.90	1.92	0.00	2.27	4.00	2.64	2.64	0.00	0.00	1.64	3.12	3.64	2.94	2.58
62	VHF COORDINATIONS	2.29	1.59	1.38	1.28	2.41	1.30	1.33	1.27	1.24	1.19	1.75	0.96	1.63	1.30	0.69	1.29
63	UHF COORDINATIONS	10.40	8.31	8.82	9.28	4.98	9.56	0.44	8.25	8.07	0.58	9.91	5.76	8.15	2.53	6.07	8.37
64	INTERPHONE	3.16	2.18	1.90	1.76	6.60	1.78	3.70	1.76	1.71	1.58	2.92	1.23	1.90	1.30	1.08	1.77
65	IFF	2.29	1.79	2.42	2.72	3.16	2.76	0.15	2.22	2.17	3.95	1.75	0.82	1.36	1.43	1.27	2.25
66	EMERGENCY COMMUNICATIONS	1.43	0.99	1.04	0.96	0.18	1.30	0.74	1.43	1.55	0.79	2.33	1.37	2.72	2.21	1.96	1.45
69	MISC. COORDINATIONS	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.20	0.58	0.00	0.00	0.00	0.00	0.00
71	RADIO NAVIGATION	13.47	12.10	18.26	19.20	11.13	20.76	13.48	15.87	15.22	13.24	16.62	9.04	14.40	13.77	12.83	15.94
72	COMMUNICATION	0.00	0.00	20.07	16.32	12.78	12.40	24.44	21.75	23.45	28.85	30.81	13.97	25.82	30.39	28.99	20.61
91	EMERGENCY EQUIPMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.29	0.00	0.00	0.00	0.00	0.00
96	PERSONAL EQUIPMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	EXPLOSIVE DEVICES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE D-47

ALM OXIMON

APPENDIX E

RELIABILITY STATISTICS

TABLE E-1 PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE COMPONENT FAILURES BY WHEN DISCOVERED BEFORE FLIGHT (BF) - IN-FLIGHT (IF) - BETWEEN FLIGHT (BTF) - INSPECTION (INS)

SYS. NO.	SYSTEM NAME	WHEN DISCOVERED		PERCENT	
		BF	IF	BTF	INS
11	AIRFRAME	-	-	29	71
12	COCKPIT AND FUSELAGE	-	-	25	75
13	LANDING GEAR	-	1	31	68
14	FLIGHT CONTROLS	-	1	17	82
22	TURBO PROP POWER PLANT	2	9	23	66
24	AUXILIARY POWER PLANT	1	1	30	68
32	HYDRAULIC PROPELLER	1	7	18	74
41	AIR CONDITIONING, PRESS.	1	8	37	54
42	ELECTRICAL POWER SUPPLY	-	2	39	59
44	LIGHTING SYSTEM	-	3	28	69
45	HYDRAULIC & PNEUMATIC	-	2	38	60
46	FUEL	-	12	51	37
47	OXYGEN	-	6	36	58
49	MISC. UTILITIES	-	1	23	76
51	INSTRUMENTS	1	50	18	31
52	AUTOPILOT	3	62	7	28
55	MALFUNCTION ANAL. & REC. EQUIP.	5	45	50	-
61	HF COMMUNICATIONS	1	57	7	35
62	VHF COMMUNICATIONS	4	77	3	16
63	UHF COMMUNICATIONS	4	73	7	16
64	INTERPHONE	4	53	10	33
65	IFF	-	30	2	68
66	EMERGENCY COMMUNICATIONS	5	15	19	61
69	MISC. COMMUNICATIONS	-	2	-	98
71	RADIO NAVIGATION	-	40	2	58
72	RADAR NAVIGATION	-	55	5	40
91	EMERGENCY EQUIPMENT	-	-	2	98
96	PERSONNEL EQUIPMENT	-	-	-	100
97	EXPLOSIVE DEVICES	-	-	100	-
TOTALS		2	13	24	61

TABLE E-2. C-130E ORGANIZATIONAL AND INTERMEDIATE COMPONENTS FAILURES PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRPLANE	163.2	183.1	210.9	209.7	322.8	282.2	272.9	242.8	349.7	327.8	260.5	360.5	218.2	515.4	511.5	320.02
12	COLLECT AND SUSLAGE	58.2	78.0	87.9	97.8	213.1	112.5	180.8	127.2	127.1	136.2	129.3	236.1	236.5	199.1	204.1	134.09
13	LANDING GEAR	79.3	85.7	121.4	109.3	129.3	154.8	112.0	127.3	124.8	95.6	86.0	97.7	156.8	116.4	117.2	122.55
14	FLIGHT CONTROLS	142.8	92.4	96.3	101.3	178.2	106.8	76.3	91.5	90.5	87.2	72.2	65.3	157.4	97.5	153.2	99.14
22	TURBO PROP POWER PLANT	195.8	203.5	212.0	220.5	213.2	237.4	236.8	254.4	262.5	254.9	177.1	272.1	263.2	209.9	215.0	245.33
24	AUXILIARY POWER PLANT	0.2	3.8	6.3	9.6	51.8	19.1	27.3	22.7	26.0	22.2	20.6	31.6	53.8	45.7	43.0	21.92
32	HYDRAULIC POWER	75.3	27.3	79.2	81.1	129.5	85.0	92.2	88.2	90.1	78.6	77.8	109.3	93.2	96.6	119.0	87.92
41	AIR CONDITIONING, PRESUMIZATION	100.8	65.5	66.2	88.5	122.8	72.8	82.6	62.5	60.2	44.4	50.1	60.5	119.3	64.7	119.6	67.18
42	ELECTRICAL POWER SUPPLY	12.9	16.7	18.5	21.3	32.9	26.8	19.1	32.3	35.1	29.6	21.7	34.4	54.5	54.7	50.2	30.97
44	LIGHTING SYSTEM	176.4	102.5	103.9	108.7	197.1	117.7	97.8	96.3	91.5	81.0	55.0	81.6	170.6	94.6	102.7	102.79
45	HYDRAULIC AND PNEUMATIC	110.2	76.6	77.2	78.4	172.3	93.5	70.9	72.7	71.5	70.2	54.9	66.0	118.8	72.9	74.0	77.26
46	FUEL	20.4	21.0	33.6	40.2	18.1	83.5	65.7	66.7	73.3	72.4	64.1	91.2	144.1	88.2	110.9	63.81
47	OXYGEN	3.2	4.6	5.9	7.3	12.5	10.0	18.5	12.7	14.0	14.8	8.3	13.8	26.2	19.8	21.5	11.94
49	HISC. UTILITIES	3.2	6.2	9.2	12.3	16.1	18.4	26.3	24.4	27.5	29.3	20.3	23.5	67.6	41.6	39.0	23.42
51	INSTRUMENTS	205.8	76.8	79.2	87.6	177.4	103.2	36.0	55.8	57.5	33.5	29.2	42.7	57.9	45.2	46.1	70.48
52	AUTOPILLOT	24.2	27.3	34.6	40.2	10.2	41.2	36.2	35.8	35.3	29.0	27.2	28.9	41.6	36.2	30.5	35.86
55	FUNCTIONAL ANAL. & RECORDING EQUIP.	-	-	-	-	-	0.04	0.3	0.1	0.1	0.0	-	-	-	0.2	0.4	0.05
61	VHF COMMUNICATIONS	36.4	16.9	19.0	20.1	27.2	22.3	20.5	17.1	16.0	12.2	10.9	12.2	15.0	14.7	14.8	17.48
62	VHF COMMUNICATIONS	19.0	9.1	9.2	9.9	14.4	11.1	8.6	8.2	7.6	6.1	6.2	8.0	7.9	7.0	6.0	8.58
63	UHF COMMUNICATIONS	85.1	31.6	32.0	33.6	42.6	34.4	34.1	34.5	28.1	25.1	20.3	25.9	30.9	22.2	24.9	30.34
64	INTERPHONE	80.1	41.2	42.2	45.3	61.0	51.3	42.3	37.1	33.9	31.7	28.2	29.2	32.3	25.4	33.0	38.96
65	IFF	39.0	16.6	17.0	18.5	25.4	21.2	21.9	18.7	13.2	15.7	4.2	3.4	6.7	12.7	15.3	15.17
66	EMERGENCY COMMUNICATIONS	0.0	5.8	6.5	4.7	3.4	3.1	2.0	6.8	7.7	4.6	5.5	8.0	16.7	8.4	11.5	6.31
69	HISC. COMMUNICATIONS	34.6	34.8	31.4	28.7	41.7	23.5	7.7	14.3	11.7	5.1	5.5	6.5	7.1	6.3	4.3	10.80
71	RADIO NAVIGATION	57.8	69.5	61.3	63.0	95.4	64.4	69.6	89.2	71.0	60.9	50.2	43.1	76.3	93.7	110.3	64.75
72	RAOAR NAVIGATION	215.1	140.7	142.1	146.9	142.6	144.0	130.4	134.4	128.6	127.0	86.2	69.5	133.2	155.0	179.0	136.94
91	EMERGENCY EQUIPMENT	13.8	8.8	5.9	6.4	10.0	7.4	8.0	6.1	8.6	5.1	2.5	3.3	5.3	3.4	2.4	6.38
96	PERSONNEL EQUIPMENT	0.2	0.0	0.0	0.0	0.8	0.0	0.1	0.03	0.04	0.1	0.0	0.1	0.1	0.2	0.1	0.06
97	EXPOSURE DEVICES	0.24	0.10	0.11	0.11	0.12	0.13	0.6	0.10	0.10	0.1	0.1	0.1	0.1	0.1	0.1	0.11
-	TOTALS	1938.2	1499.2	1814.0	1742.0	2538.0	1936.8	1748.4	1378.2	1804.5	1704.3	1375.2	1432.6	2904.9	2197.6	2299.9	1874.31

* NORMALIZED DATA

TABLE E-3 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE COMPONENT FAILURES

SYS	SYSTEM NAME	1962*	1963*	1964*	1965*	1966*	1967*	1968*	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
10.		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
11	AIRFRAME	0.4	12.6	12.3	12.0	16.2	15.1	18.9	10.2	18.4	18.4	10.2	19.2	24.0	22.45	22.3	17.41
12	COCKPIT AND FUSelage	3.8	5.2	5.4	5.6	8.4	8.0	6.1	7.3	7.7	7.7	9.6	12.6	8.1	6.78	8.1	7.28
13	LANDING GEAR	3.6	5.7	7.5	6.6	2.0	2.0	6.0	6.0	6.6	6.6	6.3	8.2	5.4	6.30	6.1	6.81
14	FLIGHT CONTROLS	7.4	6.5	6.1	6.8	5.1	5.5	4.4	5.0	4.8	5.1	6.2	5.1	5.4	4.44	3.6	5.29
22	TURBO PROP POWER PLANT	10.1	12.6	12.1	12.6	9.2	12.3	12.5	12.6	12.0	15.2	12.9	14.6	12.8	14.18	12.0	13.09
24	AUXILIARY POWER PLANT	0.0	0.2	0.6	0.6	1.2	0.8	1.8	1.2	1.4	1.2	1.5	1.7	1.9	2.08	1.9	1.15
32	HYDRAULIC PROPELLER	3.9	5.2	4.5	4.6	6.1	4.4	6.3	6.7	4.7	4.6	3.6	3.6	3.6	4.00	6.4	4.09
41	AIR CONDITIONING, PRESSURIZATION	0.2	4.4	4.1	3.9	2.4	3.8	3.5	3.3	2.2	2.5	3.6	3.2	4.1	2.94	2.6	3.58
42	ELECTRICAL POWER SUPPLY	0.7	1.0	1.1	1.2	2.1	1.4	2.3	1.7	1.8	1.8	1.0	1.6	1.9	2.40	2.1	1.65
44	LIGHTING SYSTEM	0.1	6.0	6.4	4.2	5.0	6.1	6.5	6.1	4.8	4.7	6.0	4.6	4.1	3.32	3.2	4.12
45	HYDRAULIC AND PNEUMATIC	0.7	6.1	4.0	4.6	3.9	4.2	4.0	3.9	3.8	4.1	6.0	4.9	5.0	4.01	4.8	3.40
46	FUEL	1.0	1.0	2.1	2.3	1.9	2.0	3.0	3.6	3.0	4.3	6.7	4.9	5.0	4.01	6.9	6.64
47	OXYGEN	0.2	0.3	0.4	0.4	0.9	0.5	1.1	0.7	0.7	0.9	0.6	0.7	0.9	1.09	1.7	1.25
49	MISC. UTILITIES	0.2	0.4	0.6	0.7	1.0	1.0	1.5	1.3	1.4	1.7	1.5	1.8	2.0	2.06	2.0	3.76
51	INSTRUMENTS	10.8	6.1	4.0	5.0	7.0	6.3	2.1	3.5	3.0	2.0	2.1	2.3	2.0	2.06	2.0	3.76
52	PILOT	1.2	1.0	2.1	2.3	2.0	2.1	2.1	1.9	1.8	1.7	2.0	1.8	1.4	1.45	1.3	1.01
55	NAVIGATION AID. & RECORDING EQUIP.	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	-	-	-	0.01	0.0	0.00
61	HF COMMUNICATIONS	1.0	1.2	1.2	1.2	1.1	1.2	1.2	0.9	0.8	0.7	0.8	0.7	0.5	0.61	0.6	0.94
62	VHF COMMUNICATIONS	3.0	0.6	0.6	0.6	0.5	0.6	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.32	0.3	0.46
63	UHF COMMUNICATIONS	2.8	2.1	2.0	1.9	1.7	1.9	1.9	1.6	1.5	1.5	1.6	1.4	1.3	1.01	1.1	1.45
64	INTERPHONE	4.6	2.7	2.6	2.6	2.5	2.6	2.4	2.0	1.8	1.9	1.8	1.6	1.1	1.16	1.0	2.00
65	IFF	2.0	1.1	1.0	1.1	1.0	1.1	1.2	0.8	0.7	0.9	0.3	0.2	0.3	0.58	0.7	0.81
66	EMERGENCY COMMUNICATIONS	-	0.0	0.3	0.3	0.1	0.2	0.1	0.4	0.4	0.3	0.4	0.3	0.6	0.38	0.3	0.34
69	MISC. COMMUNICATIONS	1.9	2.3	1.9	1.6	1.6	1.2	0.4	1.0	0.8	0.3	0.4	0.6	0.3	0.29	0.2	1.01
71	RADIO NAVIGATION	3.0	4.0	3.0	3.6	3.0	3.4	6.0	3.7	3.7	3.6	3.6	2.3	2.6	4.26	4.0	3.46
72	RADAR NAVIGATION	13.1	9.4	6.8	6.4	6.4	6.1	7.5	7.2	6.8	7.3	6.4	3.7	6.6	7.06	7.0	7.25
91	EMERGENCY EQUIPMENT	0.7	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.15	0.3	0.25
96	PRESSURE EQUIPMENT	0.5	0.0	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.00
97	EXPLOSIVE DEVICES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.00
TOTALS		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE E-4 C-130E ORGANIZATIONAL AND INTERMEDIATE COMPONENT FAILURES PER SORTIE

SYS NO.	SYSTEM NAME	1962	1963	1964	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				1.0422	3.42	.8427	.53	.6500	.7172	.72	.72	.93	2.09	1.4534	1.2007	0.9349
12	CONCEPT AND FUSELAGE				.4235	.68	.3399	.23	.2932	.2854	.20	.28	.61	.69	0.4505	0.5295	0.4108
13	LANDING GEAR				.6465	.82	.4551	.22	.2406	.2421	.21	.24	.25	.46	0.3232	0.3027	0.2574
14	FLIGHT CONTROLS				.4366	.53	.2008	.15	.1767	.1256	.19	.20	.25	.46	0.2249	0.2121	0.2649
22	TURBO PROP POWER PLANT				.9518	.96	.6661	.45	.4808	.6100	.87	.49	.71	1.06	0.8729	0.7095	0.6610
34	AUXILIARY POWER PLANT				.0415	.18	0.465	.05	.0429	.0504	.05	.06	.08	.16	0.1289	0.1109	0.0753
36	HYDRAULIC PROP-ELLER				.2512	.53	.2156	.17	.1667	.1748	.17	.22	.28	.27	0.2724	0.3279	0.2522
41	AIR CONDITIONING, PRESSURIZATION				.2946	.26	.2104	.12	.1181	.1168	.10	.14	.16	.35	0.1825	0.1534	0.1810
42	ELECTRICAL POWER SUPPLY				.0922	.22	0.774	.08	.0610	.0841	.07	.07	.09	.16	0.1542	0.1502	0.1002
44	LIGHTING SYSTEM				.4707	.61	.2402	.18	.1820	.1778	.18	.15	.22	.60	0.2648	0.2545	0.2804
45	HYDRAULIC AND PNEUMATIC				.3428	.40	.2412	.13	.1393	.1387	.03	.15	.17	.25	0.2056	0.1909	0.1920
46	FUEL				.1741	.20	.1846	.12	.1261	.1422	.15	.20	.24	.42	0.2487	0.2461	0.1844
47	ENGINE				.0316	.09	.0288	.04	.0240	.0272	.03	.02	.04	.08	0.0558	0.0456	0.0409
49	MISC. UTILITIES				.0532	.19	.0532	.05	.0461	.0534	.07	.06	.09	.17	0.1173	0.1027	0.0804
51	INSTRUMENTS				.3793	.73	.2142	.07	.1246	.1116	.07	.08	.11	.17	0.1875	0.1169	0.1984
52	AUTOPILOT				.1741	.21	.1191	.07	.0477	.0685	.06	.08	.08	.12	0.1021	0.0767	0.0994
55	NAVIGATION AID, & RECORDING EQUIP.				-	-	.0001	-	.0002	.0002	-	-	-	-	0.0006	0.0010	0.0001
61	III COMMUNICATIONS				.0470	.11	.0444	.04	.0321	.0310	.03	.03	.03	.06	0.0415	0.0362	0.0185
62	VHF COMMUNICATIONS				.0429	.06	.0321	.02	.0155	.0167	.01	.01	.02	.02	0.0197	0.0155	0.0235
63	UHF COMMUNICATIONS				.1455	.18	.1052	.07	.0519	.0545	.06	.06	.07	.09	0.0626	0.0642	0.0413
64	INTERPHONE				.1961	.26	.1483	.08	.0701	.0858	.07	.07	.06	.09	0.0716	0.0604	0.1062
65	IFF				.0803	.10	.0413	.04	.0278	.0256	.03	.01	.01	.03	0.0358	0.0395	0.0420
66	EMERGENCY COMMUNICATIONS				.7604	.81	.0090	-	.0128	.0149	.01	.02	.02	.05	0.0237	0.0297	0.0150
69	MISC. COMMUNICATIONS				.1243	.17	.0679	.02	.0146	.0304	.01	.02	.02	.02	0.0174	0.0111	0.0170
71	RADIO NAVIGATION				.2778	.39	.1919	.13	.1308	.1377	.13	.14	.11	.22	0.2642	0.2646	0.1897
72	RADAR NAVIGATION				.8361	.87	.4508	.26	.2540	.2514	.27	.25	.18	.39	0.4371	0.4618	0.3616
91	EMERGENCY EQUIPMENT				.0377	.04	.0211	.01	.0094	.0089	.01	.01	.01	.02	0.0096	0.0062	0.0152
94	PERSONNEL EQUIPMENT				5.8	1	0.0	-	.0001	.0001	-	-	-	-	0.0006	0.0010	0.0001
97	EXPLOSIVE DEVICES				.0038	-	.0004	-	.0002	.0002	-	-	-	-	0.0003	0.0003	0.0001
TOTALS					7.6474	10.43	6.8976	3.33	3.6408	3.6952	3.71	3.06	4.06	6.49	6.1981	6.9127	5.2609

* NORMALIZED DATA

TABLE E-5 C-130E COMPONENTS REPAIRED OFF BASE PER 1000 FLIGHT HOURS

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	0.51	0.54	0.51	0.54	1.13	0.75	0.83	0.85	0.83	1.00	0.77	0.92	1.51	0.9	1.16	0.81
12	COCKPIT AND FUSelage	0.0	0.0	0.12	0.12	0.20	0.25	1.55	0.50	0.58	0.42	0.32	0.56	0.56	0.6	1.11	0.49
13	LANDING GEAR	79.79	21.61	32.51	25.65	182.53	41.51	33.73	27.53	24.50	17.66	25.04	20.07	20.07	12.6	13.82	29.68
14	FLIGHT CONTROLS	0.99	2.63	2.60	2.49	2.49	2.29	4.81	2.77	2.88	3.21	2.04	2.58	3.09	2.1	2.34	2.65
21	TURBO PROP POWER PLANT	15.61	27.45	27.23	26.46	28.26	25.01	18.18	28.45	28.22	34.48	20.68	26.83	37.41	28.2	33.16	27.75
22	AUXILIARY POWER PLANT	1.24	1.41	1.59	1.76	3.79	2.11	5.02	2.45	2.63	2.99	2.00	2.95	3.00	3.1	3.26	2.90
32	HYDRAULIC BOOSTER	2.98	3.16	3.35	3.53	3.61	3.90	4.32	4.26	4.45	4.24	2.03	5.21	5.59	5.0	3.80	3.96
41	AIR CONDITIONING, PRESSURIZATION	10.51	10.70	10.49	11.04	11.54	11.45	11.76	11.82	12.01	13.33	10.70	11.31	12.00	12.4	12.82	11.62
42	ELECTRICAL POWER SUPPLY	1.84	1.93	2.03	2.12	2.12	2.30	2.81	2.49	2.58	2.70	2.10	2.42	3.64	3.2	3.90	2.60
44	LIGHTING SYSTEM	0.02	0.05	0.12	0.18	0.07	0.19	0.18	0.13	0.13	0.11	0.10	0.07	0.13	0.2	0.10	0.14
45	HYDRAULIC AND PNEUMATIC	11.10	10.63	9.96	9.40	9.49	8.26	3.47	7.12	6.55	6.89	3.28	4.01	6.68	4.0	3.48	7.18
46	FUEL	2.55	2.93	3.31	3.69	4.62	4.45	9.34	6.21	5.59	5.89	4.47	2.94	5.41	2.9	4.53	3.67
47	OUTGAS	3.01	3.11	3.22	3.32	4.44	3.54	4.67	3.75	3.06	4.24	2.94	2.68	5.41	2.9	4.53	3.67
49	MISC. UTILITIES	1.26	1.34	1.42	1.50	2.13	1.66	1.09	1.82	1.90	1.99	1.13	1.96	2.45	2.1	2.64	1.72
51	HEATING/COOLING	66.61	63.37	60.19	47.07	84.08	40.72	15.29	34.37	31.20	17.29	14.27	18.97	23.48	17.2	18.00	34.20
52	AUTOPILOT	5.32	5.83	6.34	6.86	7.97	7.88	8.99	8.91	9.42	9.91	7.08	9.48	13.35	12.4	13.12	8.62
53	NAVIGATION, COMM. & RECORDING EQUIP.	-	-	-	-	-	-	0.00	-	-	-	-	-	-	0.2	0.15	0.02
61	IF COMMUNICATIONS	0.14	0.18	0.22	0.26	0.47	0.34	0.76	0.42	0.46	0.35	0.44	0.39	1.10	0.7	0.56	0.42
62	WIF COMMUNICATIONS	0.0	0.0	0.02	0.05	0.07	0.11	0.22	0.17	0.20	0.21	0.17	0.19	0.57	0.3	0.38	0.16
63	WIF COMMUNICATIONS	0.0	1.04	1.02	0.93	0.76	0.82	1.00	1.13	1.20	0.78	0.74	1.29	1.97	1.4	1.61	1.07
64	INTERPHONE	0.05	0.24	0.23	0.22	0.22	0.20	0.18	0.25	0.26	0.16	0.22	0.28	0.40	0.3	0.33	0.24
65	WIF	0.66	0.70	0.75	0.78	1.50	0.88	1.24	0.97	1.01	1.04	0.63	1.01	1.47	1.4	1.58	0.96
66	EMERGENCY COMMUNICATIONS	0.0	0.71	0.68	0.56	1.04	0.34	0.39	0.86	0.98	1.34	0.79	1.38	1.99	1.0	0.80	0.80
67	MISC. COMMUNICATIONS	0.18	0.07	0.07	0.08	0.14	0.09	0.04	0.05	0.05	0.00	0.01	0.05	0.03	0.0	0.05	0.04
71	RADIO NAVIGATION	2.35	2.49	2.81	3.05	3.38	3.51	5.08	3.97	4.20	3.96	3.24	3.91	6.69	6.2	5.67	3.82
72	RADIO NAVIGATION	0.0	9.	9.25	8.89	7.76	7.35	6.82	10.30	10.86	10.73	9.31	10.00	16.99	13.5	14.13	9.79
91	EMERGENCY EQUIPMENT	0.0	0.0	0.03	0.07	0.00	0.07	0.04	0.03	0.03	0.01	0.02	0.11	0.00	0.1	0.02	0.05
96	PERSONNEL EQUIPMENT	-	-	-	-	0.00	-	-	-	-	0.00	-	-	0.01	-	0.00	0.0
97	EXPLOSIVE DEVICES	-	-	-	-	0.00	-	-	-	-	-	-	-	-	0.0	0.00	0.0
TOTALS		155.66	171.63	170.57	170.61	209.42	170.08	161.07	160.61	157.64	145.68	115.12	125.79	180.77	161.6	151.95	160.81

* NORMALIZED DATA

TABLE E-6 C-130E PERCENT DISTRIBUTION OF COMPONENTS REPAIRED OFF BASE

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	18 YEAR AVERAGE
11	AIRFRAME	0.88	0.33	0.38	0.39	0.64	0.41	0.55	0.51	0.54	0.69	0.67	0.73	0.84	0.64	0.76	0.82
12	COCKPIT AND FUSelage	0.0	0.0	0.07	0.12	0.12	0.10	0.14	0.31	0.37	0.29	0.28	0.71	0.76	0.42	0.73	0.30
13	LANDING GEAR	40.97	10.42	19.08	20.90	23.12	24.41	29.84	17.16	15.48	12.12	22.45	16.78	11.10	9.62	9.19	18.55
14	FLIGHT CONTROLS	0.50	1.53	1.82	1.46	1.60	1.35	3.05	1.72	1.83	2.37	1.77	1.03	1.21	1.49	1.54	1.64
22	TURBO PROP POWER PLANT	7.94	16.99	15.96	15.81	13.97	14.70	22.70	17.71	19.54	23.67	17.97	19.76	20.69	19.94	21.82	17.34
24	AUXILIARY POWER PLANT	0.63	0.82	0.93	1.03	1.01	1.24	2.11	1.52	1.57	1.65	1.74	2.17	2.10	2.19	2.61	1.50
32	HYDRAULIC PROPELLER	1.52	1.84	1.94	2.07	1.72	2.29	2.68	2.63	2.82	2.91	1.78	3.84	3.09	3.54	2.50	2.47
41	AIR CONDITIONING, PRESSURIZATION	0.34	0.23	0.28	0.49	0.51	0.73	7.31	7.36	7.42	9.15	9.30	8.33	7.19	9.48	9.10	7.29
42	ELECTRICAL POWER SUPPLY	0.94	1.12	1.19	1.24	2.77	1.35	1.78	1.55	1.64	1.85	1.82	1.73	2.01	2.25	2.57	1.54
44	IGNITION SYSTEM	0.01	0.03	0.07	0.10	0.03	0.11	0.11	0.08	0.08	0.06	0.09	0.05	0.07	0.14	0.07	0.09
45	HYDRAULIC AND PNEUMATIC	5.64	6.14	8.84	6.51	4.63	4.06	2.15	4.43	4.15	4.28	2.85	2.93	3.14	2.83	2.29	4.44
46	FUEL	1.30	1.21	1.94	2.17	2.21	2.62	5.80	3.24	3.53	4.04	3.88	4.34	5.35	5.23	5.05	3.19
47	OXYGEN	1.53	1.81	1.88	1.94	2.12	2.08	2.90	2.33	2.45	2.91	2.55	2.64	2.99	2.76	2.98	2.29
49	MISC. UTILITIES	0.64	0.78	0.83	0.88	1.02	0.98	0.68	1.13	1.29	1.37	0.98	1.41	1.36	1.49	1.74	1.07
51	INSTRUMENTS	28.75	31.10	29.42	27.59	21.82	23.94	9.49	21.40	19.79	11.87	12.40	13.97	12.99	12.16	11.85	21.41
52	autopilot	2.70	3.40	3.72	4.02	3.81	4.53	6.58	5.53	5.98	6.80	6.85	6.98	7.39	8.77	8.43	5.29
55	NAVIGATION, AUX., & RECORDING EQUIP.	-	-	-	-	-	-	0.00	-	-	-	-	-	-	0.14	0.10	0.01
56	IF COMMUNICATIONS	0.07	0.10	0.12	0.15	0.22	0.20	0.41	0.26	0.29	0.24	0.38	0.29	0.41	0.50	0.37	0.26
57	HF COMMUNICATIONS	0.0	0.0	0.01	0.03	0.03	0.06	0.14	0.10	0.13	0.14	0.15	0.14	0.32	0.21	0.21	0.10
58	VHF COMMUNICATIONS	0.0	0.0	0.0	0.06	0.36	0.48	0.62	0.70	0.76	0.54	0.64	0.95	1.09	0.99	1.08	0.67
63	UHF COMMUNICATIONS	0.02	0.14	0.13	0.23	0.21	0.12	0.11	0.16	0.16	0.11	0.19	0.21	0.22	0.21	0.22	0.15
64	INTERPHONE	0.34	0.41	0.44	0.46	0.76	0.82	0.80	0.60	0.64	0.71	0.55	0.74	0.81	0.99	1.04	0.60
65	IFF	0.0	0.41	0.40	0.37	0.02	0.20	0.21	0.54	0.42	0.92	0.69	1.02	1.10	0.71	0.53	0.60
66	EMERGENCY COMMUNICATIONS	0.09	0.04	0.04	0.05	0.07	0.05	0.02	0.04	0.03	0.00	0.01	0.04	0.02	0.00	0.01	0.04
69	MISC. COMMUNICATIONS	1.20	1.51	1.48	1.79	1.59	2.06	3.15	2.47	2.64	2.72	2.81	2.88	3.70	3.68	3.73	2.39
71	RADIO NAVIGATION	0.0	0.0	5.42	6.03	3.71	4.32	3.61	6.41	6.95	7.37	7.22	7.36	9.40	9.55	9.30	6.18
72	RADAR NAVIGATION	0.0	0.0	0.02	0.06	0.00	0.04	0.02	0.02	0.02	0.01	-	0.08	0.07	0.07	0.02	0.03
91	PERMANENT EQUIPMENT	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-
96	PERSONNEL EQUIPMENT	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-
97	EXTRAUSUAL DEVICES	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-
TOTALS		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE E-7 C-130E COMPONENTS REPAIRED OFF BASE PER SORTIE

SYS NO.	SYSTEM NAME	1962	1963	1964	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				.0021	.0085	.0022	.0017	.0016	.0017	.0022	.0021	.0026	.0044	.0026	.0030	.0025
12	COCKPIT AND FUSELAGE				.0003	.0016	.0009	.0029	.0009	.0011	.0009	.0009	.0017	.0025	.0027	.0029	.0019
13	LANDING GEAR				.1541	.2163	.1800	.0838	.0521	.0473	.0387	.0710	.0618	.0644	.0364	.0357	.0610
14	FLIGHT CONTROLS				.0108	.0046	.0093	.0093	.0052	.0054	.0108	.0047	.0041	.0090	.0059	.0060	.0079
22	TURBO PROP POWER PLANT				.1146	.1203	.0723	.0723	.0638	.0547	.0715	.0576	.0432	.1089	.0795	.0856	.0777
24	AUXILIARY POWER PLANT				.0076	.0118	.0061	.0095	.0046	.0051	.0059	.0066	.0076	.0111	.0047	.0102	.0079
32	HYDRAULIC PROPELLER				.0153	.0119	.0113	.0042	.0040	.0046	.0093	.0056	.0134	.0163	.0141	.0094	.0107
41	AIR CONDITIONING, PRESSURIZATION				.0489	.0471	.0331	.0322	.0223	.0233	.0212	.0258	.0392	.0378	.0378	.0357	.0314
42	ELECTRIC POWER SUPPLY				.0032	.0239	.0046	.0056	.0017	.0050	.0059	.0048	.0042	.0106	.0090	.0101	.0082
44	LIGHTING SYSTEM				.0003	.0003	.0005	.0003	.0002	.0002	.0002	.0002	.0002	.0004	.0004	.0003	.0003
45	HYDRAULIC AND PNEUMATIC				.0407	.0380	.0239	.0046	.0134	.0127	.0127	.0091	.0041	.0165	.0113	.0090	.0170
46	FUEL				.0163	.0190	.0129	.0129	.0098	.0078	.0093	.0082	.0152	.0282	.0209	.0156	.0106
47	OXYGEN				.0166	.0183	.0102	.0048	.0071	.0075	.0043	.0042	.0092	.0157	.0119	.0117	.0106
49	MISC. UTILITIES				.0051	.0088	.0018	.0021	.0034	.0037	.0044	.0031	.0051	.0071	.0059	.0048	.0048
51	INSTRUMENTS				.2038	.2223	.1177	.0489	.0450	.0408	.0379	.0397	.0409	.0483	.0405	.0464	.0419
52	AUTOPILLOT				.0297	.0328	.0228	.0170	.0168	.0183	.0217	.0219	.0215	.0386	.0350	.0338	.0241
55	INTERCOM, ANAL. & RECORDING EQUIP.														.0006	.0004	.0000
61	HF COMMUNICATIONS				.0011	.0019	.0010	.0016	.0008	.0009	.0008	.0012	.0018	.0032	.0020	.0014	.0013
62	VHF COMMUNICATIONS				.0007	.0003	.0003	.0004	.0003	.0004	.0008	.0006	.0006	.0017	.0008	.0010	.0005
63	UHF COMMUNICATIONS				.0041	.0031	.0024	.0019	.0021	.0023	.0017	.0021	.0033	.0037	.0039	.0042	.0028
64	INTERPHONE				.0059	.0009	.0006	.0003	.0005	.0006	.0004	.0006	.0007	.0012	.0008	.0009	.0006
65	IFF				.0031	.0008	.0025	.0024	.0018	.0020	.0023	.0018	.0026	.0043	.0039	.0041	.0030
69	EMERGENCY COMMUNICATIONS				.0021	.0002	.0010	.0007	.0016	.0010	.0029	.0022	.0036	.0058	.0028	.0021	.0020
69	MISC. COMMUNICATIONS				.0061	.0008	.0003		.0001	.0001			.0001		.0000	.0001	.0001
71	RADIO NAVIGATION				.0132	.0137	.0101	.0096	.0076	.0081	.0087	.0090	.0101	.0195	.0107	.0146	.0108
72	RADAR NAVIGATION				.0172	.0119	.0212	.0110	.0195	.0213	.0238	.0231	.0258	.0494	.0381	.0365	.0251
91	EMERGENCY EQUIPMENT				.0001		.0003		.0001	.0001			.0003		.0003	.0001	.0001
96	PERSONNEL EQUIPMENT															.0000	.0000
97	EXPLOSIVE DEVICES															.0000	.0000
	TOTALS				.7387	.001	.0916	.204	.3032	.1387	.319	.280	.308	.605	.3037	.3020	.4298

* UNPAID DATA

TABLE E-8 C-130E COMPONENTS CONSUMED PER 1000 FLIGHT HOURS

SYST NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
11	AIRFRAME	1.32	1.03	1.08	1.22	2.41	1.63	1.02	0.78	0.59	0.33	0.10	0.11	0.20	0.1	0.27	0.08
12	COCKPIT AND FUSELAGE	7.44	2.15	2.61	3.16	4.28	3.64	3.64	2.14	1.82	2.32	0.49	0.15	0.48	2.7	0.31	2.31
13	LANDING GEAR	15.02	4.24	4.55	5.24	8.04	6.53	4.82	3.44	2.74	3.43	2.24	0.62	0.99	0.9	0.70	2.06
14	FLIGHT CONTROLS	8.58	0.48	0.43	0.28	0.38	0.32	0.68	0.28	0.21	0.21	0.16	0.02	0.12	0.0	0.03	0.23
22	TURBO PROP POWER PLANT	1.48	2.76	5.29	7.29	3.11	2.63	7.46	5.72	5.54	2.78	1.12	2.64	0.45	4.6	5.95	5.53
24	AUXILIARY POWER PLANT	0.35	0.00	0.00	0.23	0.40	0.27	0.13	0.12	0.14	0.13	0.08	0.04	0.16	0.1	0.10	0.18
32	HYDRAULIC PROPELLER	1.37	0.63	0.65	0.61	1.19	0.74	0.41	0.44	0.37	0.04	0.06	0.04	0.04	0.0	0.25	0.47
41	AIR CONDITIONING, PRESSURIZATION	3.61	1.84	1.87	1.99	2.67	2.20	2.28	1.69	1.37	0.93	0.74	1.50	1.33	1.6	1.74	1.73
42	ELECTRICAL POWER SUPPLY	0.71	0.74	0.77	0.81	0.87	0.87	1.59	0.94	0.97	0.92	0.92	1.12	1.22	0.7	1.16	0.91
43	LIGHTING SYSTEM	1.74	1.49	1.42	1.65	1.30	1.42	1.63	1.29	1.22	2.12	1.16	1.12	1.05	0.8	1.11	1.36
44	HYDRAULIC AND PNEUMATIC	2.11	0.73	0.75	0.84	1.23	1.01	0.92	0.61	0.51	0.40	0.35	0.28	0.43	0.3	0.25	0.66
45	FUEL	0.41	0.39	0.34	0.34	0.18	0.29	0.41	0.22	0.21	0.28	0.07	0.10	0.13	0.1	0.02	0.24
46	OIL/GEN	0.26	0.16	0.12	0.21	0.42	0.28	0.18	0.11	0.07	0.04	0.01	0.02	-	-	0.00	0.14
49	MISC. UTILITIES	1.94	1.03	1.22	1.61	2.20	1.40	0.44	1.18	1.07	1.10	0.12	0.45	2.18	0.5	0.45	1.20
51	INSTRUMENTS	0.31	0.26	0.13	0.03	1.98	0.01	0.07	0.11	0.12	0.10	0.12	0.27	0.17	0.1	0.03	0.12
52	PILOT	-	-	-	-	0.11	-	0.00	-	-	-	0.01	-	-	-	0.00	0.0
55	NAVIGATION, ANAL. & RECORDING EQUIP.	-	-	-	-	-	-	0.00	-	-	-	-	-	-	-	0.00	0.0
61	NAV. COMMUNICATIONS	0.24	0.14	0.16	0.15	0.18	0.16	0.15	0.13	0.12	0.11	0.07	0.11	0.13	0.3	0.51	0.15
62	NAV. COMMUNICATIONS	0.0	0.01	0.04	0.06	0.14	0.06	0.02	0.04	0.04	0.01	0.01	0.01	0.02	0.03	0.00	0.04
63	NAV. COMMUNICATIONS	1.84	0.59	0.60	0.66	0.94	0.77	0.81	0.50	0.43	0.22	0.21	0.26	0.44	0.3	0.33	0.53
84	INTERPHONE	0.40	0.45	0.42	0.39	0.18	0.32	0.44	0.26	0.23	0.42	0.08	0.01	0.08	0.1	0.03	0.27
45	IFF	0.70	0.65	0.60	0.55	0.40	0.45	0.72	0.34	0.29	0.07	0.01	0.04	0.19	0.1	0.05	0.35
46	EMERGENCY COMMUNICATIONS	0.03	0.05	0.11	0.16	0.32	0.18	0.13	0.12	0.12	0.01	0.04	0.02	0.18	0.1	0.15	0.12
69	MISC. COMMUNICATIONS	0.32	0.14	0.14	0.17	0.34	0.22	0.02	0.10	0.08	0.20	0.01	0.01	0.00	0.01	0.00	0.12
71	RADIO NAVIGATION	1.41	0.76	0.78	0.83	0.58	0.94	1.59	0.69	0.64	0.31	0.37	0.20	0.54	0.6	1.03	0.70
72	RADIO NAVIGATION	2.67	1.02	1.05	1.16	0.94	1.36	2.84	0.88	0.77	0.72	0.19	0.20	0.44	0.4	0.71	0.91
91	EMERGENCY EQUIPMENT	0.02	0.11	0.31	0.47	0.00	0.49	0.38	0.34	0.33	0.07	0.12	0.0	0.55	0.3	0.00	0.32
96	PERSONNEL EQUIPMENT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0
97	EXPLOSIVE DEVICES	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	0.00	0.0
-	TOTALS	50.15	23.42	26.30	29.96	36.65	33.10	32.43	22.81	20.22	17.41	9.15	10.75	18.73	14.64	16.20	23.36

* NORMALIZED DATA

TABLE E-9 C-130E PERCENT DISTRIBUTION OF COMPONENTS CONCERNED

SYS NO.	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	15 YEAR AVERAGE
11	AIRFRAME	7.92	4.40	4.11	4.21	6.87	4.92	3.15	3.47	2.92	1.99	1.02	1.40	2.15	0.68	1.78	3.74
12	COCKPIT AND FUELAGE	16.84	10.89	10.04	9.88	12.03	10.76	10.91	9.51	9.00	13.61	5.25	5.12	2.61	2.61	2.17	9.80
13	LANDING GEAR	29.95	18.53	17.25	12.48	24.00	19.23	14.31	15.28	13.55	19.70	24.48	5.27	5.45	5.15	4.51	16.51
14	FLIGHT CONTROLS	0.99	1.96	1.63	1.30	1.01	1.00	2.04	1.15	1.14	1.21	1.75	0.65	0.72	0.00	0.20	1.20
22	TURBO PROP POWER PLANT	3.35	11.78	20.08	24.30	8.72	23.05	24.99	25.41	27.40	15.97	12.24	24.56	46.48	31.51	39.16	23.65
24	AUXILIARY POWER PLANT	1.10	0.85	0.76	0.77	1.12	0.82	0.60	0.79	0.69	0.78	0.87	0.47	0.48	0.48	0.48	0.77
32	HYDRAULIC PROPELLER	3.13	2.26	2.09	2.04	3.34	2.24	1.26	1.55	1.83	0.23	0.65	0.72	0.22	0.00	1.64	2.01
34	AIR CONDITIONING, PRESSURIZATION	7.20	7.06	7.11	6.64	7.49	6.65	6.90	7.31	7.76	5.34	8.09	13.95	7.32	10.27	11.45	7.40
42	ELECTRICAL POWER SUPPLY	1.42	3.16	2.93	2.70	2.44	2.63	4.87	4.18	4.80	5.34	10.15	10.51	6.71	4.72	7.63	3.89
44	LIGHTING SYSTEM	3.49	7.22	6.14	5.17	3.65	4.79	4.53	5.73	6.03	12.18	12.57	10.42	5.78	5.48	7.30	5.82
45	HYDRAULIC AND PNEUMATIC	4.25	3.12	2.85	2.80	3.72	3.05	1.54	2.71	2.52	2.30	1.83	2.70	2.37	2.05	1.64	2.82
46	FUEL	0.82	1.67	1.37	1.13	0.50	0.84	1.26	1.02	1.04	1.61	0.77	0.93	0.72	0.68	0.13	1.03
47	OXYGEN	1.52	0.68	0.65	0.70	1.21	0.85	0.65	0.49	0.35	0.23	0.11	0.19	-	-	0.00	0.60
49	MISC. UTILITIES	3.07	7.01	6.54	6.37	6.17	4.23	1.35	5.24	5.28	6.32	6.48	5.12	6.49	3.42	2.96	5.13
51	INSTRUMENTS	0.62	1.11	0.49	0.10	5.55	0.03	0.21	0.49	0.59	0.57	1.31	2.51	0.96	0.68	0.20	0.51
52	AUDIO/VIDEO	-	-	-	-	0.31	-	0.00	-	-	-	0.11	-	-	0.00	0.00	0.0
55	NAVIGATION, INSTRUMENTS & RECORDING EQUIP.	-	-	-	-	-	-	0.60	-	-	-	-	-	-	-	0.00	0.0
61	HF COMMUNICATIONS	0.48	0.60	0.53	0.60	0.50	0.48	0.46	0.58	0.59	0.75	0.77	1.02	0.72	2.05	3.36	0.66
62	VHF COMMUNICATIONS	0.0	0.04	0.16	0.70	0.39	0.18	0.06	0.18	0.20	0.04	0.11	0.09	0.11	0.00	0.00	0.17
63	UHF COMMUNICATIONS	3.07	2.48	2.28	2.20	2.64	2.33	2.48	2.22	2.13	1.26	2.30	2.42	2.42	2.05	2.17	2.27
64	INTERPHONE	0.94	1.92	1.60	1.30	0.05	0.97	1.35	1.16	1.14	2.41	0.87	0.09	0.44	0.68	0.20	1.15
65	IFF	1.40	2.78	2.28	1.84	1.12	1.36	2.21	1.51	1.43	0.40	0.11	0.37	1.05	0.68	0.33	1.50
66	EMERGENCY COMMUNICATIONS	0.06	0.21	0.42	0.53	0.62	0.48	0.40	0.53	0.59	0.40	0.44	0.19	0.99	0.68	0.99	0.51
69	MISC. COMMUNICATIONS	1.04	0.60	0.53	0.57	1.01	0.65	0.06	0.44	0.40	1.15	0.11	0.09	0.00	-	0.00	0.51
71	RADIO NAVIGATION	3.21	3.25	2.97	2.77	1.63	2.84	4.87	3.07	3.17	1.78	2.95	1.86	2.97	4.11	6.78	2.99
72	RADIO NAVIGATION	5.32	4.34	3.99	3.87	2.64	4.11	8.03	3.91	3.81	4.14	2.08	1.86	2.42	2.76	4.07	3.89
91	EMERGENCY EQUIPMENT	0.04	0.47	1.16	1.57	0.00	1.48	1.30	1.51	1.63	0.40	1.31	-	-	2.05	0.00	1.37
96	PERSONNEL EQUIPMENT	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	0.00	0.0
97	EXPLOSIVE DEVICES	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	0.00	0.0
TOTALS		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE 1-10 C-130F COMPONENTS CONDEMNED PER SORTIE

• NORMAL DATA

TABLE E-11 C-130E MATERIAL MISSION ABORTS PER 1000 FLIGHT HOURS

SYST NO.	SYSTEM NAME	1962°	1963°	1964°	1965°	1966	1967°	1968	1969°	1970°	1971	1972	1973	1974	1975	1976	18 YEAR AVERAGE
31	AIRFRAME	.00	.10	.13	.15	.42	.20	.29	.25	.10	0.42	.25	.20	.20	0.4	.40	0.24
32	COCKPIT AND FUSELAGE	.11	.11	.11	.10	.03	.00	.11	.00	.00	0.00	.00	.00	.02	0.1	.37	0.18
33	LANDING GEAR	.54	.67	.87	1.83	1.26	1.06	.94	.91	.09	0.00	.78	.60	.60	0.8	1.01	0.91
34	FLIGHT CONTROLS	.09	.12	.41	.40	.39	.43	.44	.15	.10	0.10	.72	.61	.79	0.6	.40	0.64
22	TURBO PROP POWER PLANT	0.08	0.24	0.00	0.87	0.07	0.89	0.11	0.10	0.00	0.20	0.44	0.21	0.04	0.8	0.24	0.20
24	AUXILIARY POWER PLANT	.17	.16	.15	.19	.14	.13	.15	.11	.10	0.00	.04	.04	.12	0.1	.00	0.11
25	HYDRAULIC PUMP/VALVE	0.20	0.21	0.24	0.43	0.06	0.40	0.61	0.10	0.10	0.00	1.00	0.10	0.02	1.7	1.77	0.24
41	AIR CONDITIONING, PRESSURIZATION	.71	.71	.70	.66	.72	.63	.60	.60	.65	0.71	.39	.49	.61	0.6	.65	0.60
42	ELECTRICAL POWER SUPPLY	.04	.19	.19	.22	1.01	.17	.37	.64	.62	0.30	.37	.26	.40	0.4	.45	0.44
44	LIGHTING SYSTEM	.02	.02	.03	.04	.00	.00	.00	.00	.07	0.00	.04	.00	.00	0.1	.20	0.06
45	HYDRAULIC AND PNEUMATIC	.20	.29	.40	.83	.34	.60	.63	.51	.04	0.50	.34	.40	.69	0.4	.40	0.32
46	FUEL	.00	.04	.10	.47	.10	.50	.20	.32	.31	0.31	.24	.20	.29	0.1	.10	0.13
47	OUTGAS	.00	.00	.04	.00	.14	.00	.00	.00	.00	0.00	.01	.04	.09	0.0	.03	0.15
49	MISC. UTILITIES	.82	.20	.20	.32	.50	.30	.17	.60	.40	0.41	.34	.60	.61	0.5	.20	0.20
61	INSTRUMENTS	.00	.00	.20	.43	.72	.47	.11	.25	.23	0.16	.09	.00	.12	0.1	.10	0.25
62	ALTIMETER	.27	.27	.26	.25	.27	.24	.10	.22	.21	0.22	.22	.06	.13	0.2	.16	0.22
65	NAVIGATION AID, & RECORDING EQUIP.	.01	.01	.01	.01	0.00	.01	.00	.01	.01	0.01	.01	.01	.01	0.0	.03	0.01
67	WIF COMMUNICATIONS	.11	.10	.00	.09	.04	.07	.09	.05	.04	0.04	.01	.01	.02	-	-	0.06
63	WIF COMMUNICATIONS	.00	.00	.00	.00	0.00	.00	.00	.00	.04	0.04	-	.02	.03	0.0	.00	0.04
64	INTERPHONE	.10	.10	.00	.00	.00	.07	.00	.00	.00	0.07	.01	.01	.00	0.0	.00	0.00
65	IFF	.16	.16	.16	.13	.11	.11	.13	.09	.00	0.16	.04	.04	.04	0.1	.00	0.10
66	EMERGENCY COMMUNICATIONS	.00	.03	.00	.01	0.00	.01	-	.02	.02	0.02	.03	.03	.00	0.0	.03	0.02
69	MISC. COMMUNICATIONS	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	0.0
71	RADIO NAVIGATION	.04	.04	.04	.04	0.03	0.3	.04	.02	.02	0.01	.01	.01	.01	0.0	.02	0.02
72	NAVIGATION	.23	.21	.20	.19	.11	.17	.13	.10	.13	0.28	.03	.07	.10	0.2	.10	0.16
91	INTEGRITY EQUIPMENT	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	0.0
92	PROCESSES EQUIPMENT	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	0.0
97	EXPOSITIVE DEVICES	.02	.02	.02	.02	0.00	0.1	.02	.01	.01	0.01	-	-	-	0.0	.03	0.01
TOTALS		5.02	0.613	10.527	12.00	13.34	12.42	10.87	10.57	10.26	11.94	0.62	9.57	11.72	9.4	9.42	10.04

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TABLE E-12 C-130E PERCENT DISTRIBUTION OF MATERIAL MISSION ABORTS

S/N	SYSTEM NAME	1962*	1963*	1964*	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	16 YEAR AVERAGE
10.		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
11	AIRFRAME	0.89	1.16	1.23	1.24	2.14	1.61	2.21	2.36	2.70	3.62	2.32	3.04	3.34	4.48	5.09	2.22
12	COCKPIT AND FUSELAGE	1.22	1.27	1.04	.93	1.38	.72	1.01	.76	.77	0.67	.70	.84	.26	0.53	0.74	0.83
13	LANDING GEAR	6.43	7.75	8.26	8.60	5.47	8.53	8.65	6.61	8.60	7.12	9.07	7.12	7.02	5.64	10.71	8.43
14	FLIGHT CONTROLS	1.06	6.02	4.84	3.97	2.37	3.46	4.23	6.20	6.20	4.94	8.37	6.39	6.76	6.62	5.09	5.00
22	TURBO PROP POWER PLANT	22.84	27.07	28.50	29.03	30.47	28.30	29.07	29.33	29.66	36.68	30.93	4.66	33.82	29.46	26.94	30.00
24	AUXILIARY POWER PLANT	1.66	1.85	1.42	1.16	1.05	1.05	1.38	2.04	.97	0.92	.46	.63	1.03	1.28	0.85	1.02
32	HYDRAULIC PROPELLER	41.02	26.73	22.23	20.10	21.34	20.93	23.09	20.72	20.28	17.25	21.16	22.51	17.29	17.93	18.77	20.74
41	AIR CONDITIONING, PRESSURIZATION	8.20	8.2	6.65	5.46	1.64	5.07	6.26	5.49	5.31	5.95	4.53	5.13	5.67	6.51	6.89	5.56
42	ELECTRICAL POWER SUPPLY	.66	2.20	4.65	5.56	7.15	6.20	3.40	6.11	5.02	3.27	4.30	2.72	4.20	4.27	4.77	5.00
44	EMERGENCY SYSTEM	.22	.23	.28	.33	.40	.40	-	.57	.68	0.50	.70	.73	.43	1.39	2.32	0.52
45	HYDRAULIC AND PNEUMATIC	2.22	3.36	4.56	6.21	2.68	5.31	6.80	4.82	4.83	4.19	4.42	4.19	5.91	4.80	5.09	4.81
46	FUEL	.00	.00	2.66	3.89	5.16	4.02	2.58	3.03	3.00	2.68	2.79	2.93	2.40	1.60	1.91	3.06
47	OXYGEN	.00	.00	.38	.66	1.05	.84	0.55	.47	.48	0.50	.12	.42	.77	0.43	0.32	0.46
49	MISC. UTILITIES	2.88	3.24	2.85	2.65	2.91	2.90	3.40	3.78	4.06	3.60	4.42	5.24	5.57	5.12	3.71	3.61
51	INSTRUMENTS	.00	.00	1.90	3.16	6.36	3.78	1.01	2.35	2.22	1.76	1.04	.44	1.03	1.36	1.70	2.31
52	ANTIPLOTT	2.99	3.12	2.47	2.07	1.64	1.93	2.23	2.08	1.01	1.84	2.56	.83	1.03	1.81	1.70	2.04
55	FUNCTIONAL AND RECORDING EQUIP.	.11	.12	.09	.08	.00	.08	-	.09	.10	0.34	.73	.10	.08	.11	.32	0.09
61	IFF COMMUNICATIONS	1.22	.85	.85	.74	.45	.56	0.83	.47	.39	0.34	.12	.10	.08	-	-	0.46
62	VHF COMMUNICATIONS	.00	.00	.36	.66	0.00	.84	0.83	.47	.39	0.34	-	.21	.43	0.32	0.53	0.37
63	UHF COMMUNICATIONS	1.11	1.16	.85	.66	.60	.56	0.65	.87	.48	0.59	.12	.10	.51	0.11	-	0.56
64	INTERPHONE	1.77	1.74	1.13	1.08	.82	.88	1.20	.85	.77	1.16	.47	.53	.61	0.53	0.85	0.93
65	IFF	.00	.03	.07	.08	0.00	.08	-	.19	.19	0.17	.35	.21	.51	0.43	0.32	0.19
66	EMERGENCY COMMUNICATIONS	.00	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-
69	MISC. COMMUNICATIONS	.55	.46	.36	.33	.22	.24	0.37	.19	.19	0.04	.12	.10	.08	0.11	0.21	0.19
71	RADIO NAVIGATION	2.55	2.43	1.90	1.57	.02	1.37	1.20	1.32	1.26	2.35	.81	.73	1.37	2.03	1.06	1.48
72	RADAR NAVIGATION	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-
91	EMERGENCY EQUIPMENT	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-
96	PERSONNEL EQUIPMENT	-	-	-	-	0.00	-	-	-	-	-	-	-	-	-	-	-
97	EXPLOSIVE DEVICES	.22	.23	.19	.16	0.00	.08	0.18	.69	.10	0.08	-	-	-	0.11	0.32	0.09
TOTALS		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

* NORMALIZED DATA

TABLE E-13 C-130E MATERIAL MISSION ABORTS PER SORTIE

SYS NO.	SYSTEM NAME	1962	1963	1964	1965*	1966	1967*	1968	1969*	1970*	1971	1972	1973	1974	1975	1976	12 YEAR AVERAGE
11	AIRFRAME				.0006	.0017	.0006	.0005	.0005	.0005	.0009	.0005	.0007	.0011	.0012	.0012	.0008
12	COCKPIT AND FUSELAGE				.0004		.0003		.0002	.0001	.0002	.0002	.0002		.0001	.0001	.0002
13	LANDING GEAR				.0045	.0051	.0031	.0018	.0017	.0017	.0018	.0022	.0018	.0024	.0023	.0026	.0025
14	FLIGHT CONTROLS				.0021	.0016	.0012	.0009	.0010	.0011	.0013	.0020	.0016	.0023	.0017	.0012	.0014
22	TURBO PROP POWER PLANT				.0152	.0167	.0104	.0060	.0058	.0059	.0056	.0074	.0085	.0115	.0078	.0066	.0090
24	AUXILIARY POWER PLANT				.0006	.0006	.0004		.0002	.0002	.0001	.0001	.0002	.0004	.0003	.0002	.0003
32	HYDRAULIC POWER PLANT				.0105	.0117	.0075	.0047	.0011	.0011	.0015	.0031	.0056	.0059	.0047	.0046	.0060
41	AIR CONDITIONING, PRESSURIZATION				.0028	.0009	.0018	.0013	.0011	.0010	.0016	.0011	.0013	.0019	.0017	.0017	.0015
42	ELECTRICAL POWER SUPPLY				.0031	.0012	.0022	.0007	.0010	.0010	.0008	.0010	.0007	.0014	.0011	.0012	.0015
44	LIGHTING SYSTEM				.0002		.0001		.0001	.0001		.0010	.0002	.0002	.0004	.0005	.0001
45	HYDRAULIC AND PNEUMATIC				.0027	.0015	.0019	.0012	.0010	.0010	.0011	.0010	.0010	.0020	.0013	.0012	.0014
46	FUEL				.0070	.0028	.0014	.0005	.0006	.0004	.0007	.0004	.0007	.0008	.0014	.0005	.0010
47	ORIGIN				.0003	.0006	.0002	.0001	.0003	.0001	.0001		.0001	.0001	.0001	.0001	.0002
49	MISC. UTILITIES				.0014	.0016	.0010	.0007	.0008	.0008	.0009	.0011	.0013	.0019	.0016	.0009	.0011
51	INSTRUMENTS				.0019	.0030	.0014	.0002	.0005	.0004	.0003	.0003	.0002	.0004	.0004	.0004	.0004
52	INSTRUMENTS				.0011	.0009	.0007	.0005	.0004	.0004	.0004	.0006	.0001	.0001	.0005	.0004	.0005
55	INSTRUMENTS, AID, & RECORDING EQUIP.				.0000		.0000		.0000	.0000					.0000	.0001	.0000
61	HF COMMUNICATIONS				.0004		.0002	.0002	.0001	.0001					.0001	.0001	.0001
62	VHF COMMUNICATIONS				.0003		.0002	.0002	.0001	.0001				.0002	.0000		.0001
63	UHF COMMUNICATIONS				.0003		.0002	.0001	.0001	.0001	.0001	.0001	.0001	.0002	.0001	.0002	.0002
64	INTERPHONE				.0006		.0003	.0003	.0002	.0002	.0004	.0001	.0001	.0002	.0001	.0001	.0000
65	IFF				.0000		.0000		.0000	.0000							
66	EMERGENCY COMMUNICATIONS																
67	MISC. COMMUNICATIONS				.0002		.0001		.0000	.0000					.0000	.0001	.0000
71	RADIO NAVIGATION				.0008	.0005	.0005	.0003	.0003	.0002	.0006	.0002	.0002	.0005	.0005	.0003	.0004
72	RAдар NAVIGATION																
91	EMERGENCY EQUIPMENT																
96	PERSONNEL EQUIPMENT																
97	EXPLOSIVE DEVICES				.0001		.0000		.0000	.0000					.0000	.0001	.0000
	TOTALS				.0571	.0534	.0360	.0202	.0199	.0187	.0282	.0240	.0247	.0341	.0264	.0234	.0292

* NORMALIZED DATA

TABLE E-14 C-130E MATERIAL MISSION ABORTS (GROUND AND FLIGHT) PER 1000 FLIGHT HOURS

SYS	SYSTEM NAME	1962		1963		1964		1965		1966		1967		1968		1969		1970		1971		1972		1973		1974		1975		1976		15 YEAR AVERAGE	
		GO	FL	GO	FL	GO	FL	GO	FL	GO	FL	GO	FL	GO	FL	GO	FL	GO	FL	GO	FL	GO	FL	GO	FL	GO	FL	GO	FL	GO	FL	GO	FL
11	AIRFRAME	.03	.05	.01	.04	.04	.09	.05	.10	.14	.28	.07	.13	.09	.15	.02	.15	.15	.27	.08	.12	.04	.22	.19	.20	.13	.29	.08	.40	.04	.18		
12	COCKPIT AND FUSELAGE	.04	.05	.04	.05	.04	.06	.04	.07	.03	.03	.05	.04	.07	.04	.04	.04	.04	.04	.04	.03	.01	.04	.04	.02	.01	.02	.05	.02	.12	.03		
13	LANDING GEAR	.24	.34	.20	.39	.34	.51	.13	.61	.65	.41	.62	.61	.33	.36	.13	.37	.52	.33	.45	.34	.41	.30	.34	.30	.52	.28	.63	.25	.75	.34	.55	
14	FLIGHT CONTROLS	.04	.05	.23	.29	.23	.29	.21	.27	.28	.11	.19	.24	.17	.28	.24	.11	.26	.27	.26	.23	.38	.35	.30	.31	.27	.52	.25	.37	.16	.32	.24	.38
22	TURBO PROP POWER PLANT	1.27	.79	1.45	.89	1.85	1.15	2.17	1.34	1.13	.84	2.22	1.27	2.40	1.28	1.82	1.18	1.99	1.17	2.62	.76	1.71	.95	.00	1.31	2.22	1.71	2.21	.04	.44	2.00	.24	.21
24	AUXILIARY POWER PLANT	1.16	.02	1.18	.02	1.13	.02	1.12	.02	1.13	.02	1.13	.02	1.13	.02	1.12	.01	.05	.01	.02	.03	.04	.01	.04	.00	1.10	.02	1.00	.00	.00	.10	.01	.01
32	HYDRAULIC PROPELLER	1.09	.81	1.18	.13	1.20	.14	1.24	1.19	.29	1.56	1.33	.27	1.20	.25	1.12	1.07	1.08	1.02	.93	.11	.07	.95	1.04	1.11	.93	1.04	.13	.55	1.11	.44	1.15	.06
41	AIR CONDITIONING, PRESSURIZATION	.35	.39	.34	.37	.33	.37	.31	.35	.14	.08	.30	.33	.23	.35	.27	.31	.26	.29	.32	.39	.18	.21	.21	.28	.34	.31	.30	.31	.25	.40	.28	.34
42	ELECTRICAL POWER SUPPLY	.03	.03	.09	.10	.24	.25	.35	.37	.40	.61	.38	.39	.28	.09	.26	.24	.25	.27	.17	.22	.15	.22	.11	.15	.23	.24	.26	.14	.23	.22	.26	.28
43	LIGHTING SYSTEM	.01	.01	.01	.01	.01	.02	.01	.03	.00	.00	.01	.01	.01	.01	.01	.01	.05	.05	.05	.01	.01	.05	.03	.05	.02	.03	.12	.02	.14	.08	.04	
45	HYDRAULIC AND PNEUMATIC	.05	.11	.13	.16	.21	.27	.28	.35	.18	.18	.30	.34	.28	.35	.23	.24	.28	.22	.28	.18	.20	.18	.19	.21	.30	.18	.12	.33	.25	.23	.23	.25
46	FUEL	.00	.00	.02	.02	.14	.12	.24	.21	.18	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22	.22
47	OXIGEN	.00	.00	.00	.00	.02	.02	.04	.04	.14	.00	.04	.04	.04	.02	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
49	MISC. UTILITIES	.11	.15	.12	.12	.12	.12	.14	.14	.15	.15	.16	.16	.16	.16	.17	.17	.18	.18	.17	.26	.13	.12	.12	.14	.04	.04	.04	.04	.04	.04	.04	.04
51	INSTRUMENTS	.00	.00	.00	.00	.09	.11	.20	.23	.29	.33	.22	.25	.04	.07	.12	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11
52	ADDITIONAL & RECORDING EQUIP.	.14	.13	.14	.13	.14	.12	.14	.13	.14	.13	.11	.11	.22	.02	.12	.10	.11	.10	.10	.12	.12	.10	.07	.02	.09	.04	.10	.07	.05	.11	.12	.14
53	NAVIGATION AID & RECORDING EQUIP.	.00	.01	.00	.01	.00	.01	.00	.01	.00	.00	.00	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
61	HF COMMUNICATIONS	.06	.02	.05	.05	.04	.05	.04	.05	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07
62	VHF COMMUNICATIONS	.00	.00	.00	.00	.02	.02	.04	.03	.00	.00	.04	.04	.02	.07	.02	.03	.02	.02	.02	.03	.01	.00	.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
63	UHF COMMUNICATIONS	.03	.07	.03	.07	.03	.07	.05	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08
64	INTERPHONE	.04	.10	.06	.09	.05	.09	.05	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08	.08
65	IFF	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
66	EMERGENCY COMMUNICATIONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
69	MISC. COMMUNICATIONS	.00	.05	.00	.04	.00	.04	.00	.04	.00	.03	.00	.03	.04	.00	.03	.04	.00	.02	.01	.00	.00	.01	.00	.01	.00	.01	.00	.01	.00	.01	.00	.01
71	RADIO NAVIGATION	.10	.13	.09	.12	.08	.12	.08	.11	.08	.01	.07	.10	.06	.07	.06	.08	.06	.07	.07	.07	.04	.01	.04	.03	.04	.10	.07	.12	.09	.01	.07	.04
72	RADAR NAVIGATION	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
91	UNMAGNETIC EQUIPMENT	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
96	FLASKABLE EQUIPMENT	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
97	EXPLOSIVE DEVICES	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
TOTALS		4.64	4.34	4.44	4.16	5.42	5.09	6.20	6.83	7.90	5.48	6.44	5.97	6.61	7.76	6.82	5.35	5.15	5.20	5.25	6.02	4.61	6.92	6.45	5.66	6.07	6.44	6.04	6.04	6.04	6.04	6.04	6.04

APPENDIX F:

MAINTENANCE DIGEST REPORT STATISTICAL PROCEDURES

- Step 1 - Monthly Maintenance Digest reports, containing detailed assigned maintenance personnel allocations by 62 work centers, were collated for the months of September, 1975 through July, 1976 (11 months).
- Step 2 - Assigned maintenance manpower allocations encompassing officers, enlisted and civilian personnel were recorded for each of the 11 months of data released by Little Rock and Pope AFB's. Assigned manpower allocations, entered by grade in rank/skill levels were aligned to the 15 DCM work centers, 18 Organizational Maintenance Squadron work centers, 19 Field Maintenance Squadron work centers, and 10 Avionics Maintenance Squadron work centers. (Total of 62 work centers.)
- Step 3 - Assigned manpower allocations derived in Step 2 were summarized in the manner depicted in Table 10. Total numbers of officer, enlisted and civilian personnel allocated to Little Rock and Pope AFB's, were then merged and aligned to the total numbers of possessed C-130E/H aircraft at the two MAC bases. This enabled the developments of:
1. Average numbers of officer, enlisted and civilian personnel assigned to the DCM's, OMS's, FMS's, and AMS's of Little Rock and Pope AFB.
 2. Average numbers of possessed aircraft by month.
 3. Average number of possessed aircraft over the total 11 month period.
 4. Numbers of officer personnel assigned per possessed aircraft within the DCM's, OMS's, FMS's and AMS's.
 5. Numbers of enlisted personnel (by skill levels 9, 7, 5, and 3) assigned per possessed aircraft within the same work locations noted in number 4 above.
 6. Numbers of civilian personnel assigned per possessed aircraft by work locations noted in number 4 above.
- Step 4 - Data derived during Step 3 enabled formulation of officer, enlisted, and civilian manpower loading constants per C-130E aircraft. This encompassed:

1. Numbers of DCM personnel required per UE.
 - a. Officer personnel
 - b. Enlisted personnel
 - c. Civilian personnel
2. Numbers of OMS personnel required per UE.
 - a. Officer personnel
 - b. Enlisted personnel
 - c. Civilian personnel
3. Numbers of FMS personnel required per UE.
 - a. Officer personnel
 - b. Enlisted personnel
 - c. Civilian personnel
4. Numbers of AMS personnel required per UE.
 - a. Officer personnel
 - b. Enlisted personnel
 - c. Civilian personnel

APPENDIX G:

USAF OPERATING AND SUPPORT COST REPORTING SYSTEM (OSCR)

Based on the continuing emphasis and requirements to be able to account for actual operating and support cost of various weapon systems, the Air Force was tasked in early 1974, by the Department of Defense, to develop a Management Information System (MIS) that would identify their weapon system operating and support (O&S) costs. Headquarters USAF Comptroller, Cost Analysis Division (ACMCA) is presently developing a USAF Operating and Support Cost Reporting (OSCR) System to satisfy this requirement. As outlined in Reference, ¹⁵ one of the initial conclusions during phase I of accomplishing the above task was to realize that no data system in the Air Force directly associated or captured all operating and support (O&S) costs to a weapon system. Without the knowledge of total actual costs and expenditures for the operation and support of a weapon system it is extremely difficult to know what and where improvements in costs can be made or what the actual cost drivers are.

The purpose of OSCR is the implementation of a reporting system that collects operating and support costs for a weapon system such as the C-130E. Information within the reporting system covers both base and depot (level) data pertaining to actual costs incurred for human and material resources. As indicated previously, only fragments of information are available to make historical comparisons of material resource costs of a weapon system. The OSCR is an extremely important effort that will fill this void and in future years provide a much more effective means to determine and/or historically compare and analyze the operating and support costs of a weapon system

The Operating and Support Cost Report System was implemented at the start of fiscal year 1975. OSCR being a new system, continuous efforts are being made to debug, purify and improve the data contained in the report as well as the data included in the feeder reports from the various bases and depots. Fiscal year 1976 data is being processed as of this date. In addition, the user's handbook has been developed and is in draft form. However, it has not been released as of this date.

¹⁵ Presentation, "Visibility and Management of Support Costs," MBO 9-2, Headquarters USAF/ACMCA, undated.

APPENDIX H:

USAF MAINTENANCE COST SYSTEM (MCS)

USAF Maintenance Cost System (MCS) is a system, implemented in mid-1975, in which selected cost data at base level flows through various commands to Headquarters USAF and OASD (I&L and Comptroller). Its prime purpose is to provide various levels of maintenance management with comparative cost data by weapon and support systems. The elements of cost such as labor and material, when related to various categories of cost (i.e., direct costs, indirect productive costs, etc.), provide the information base for accomplishing the comparisons mentioned above.

The primary objectives of the MCS were to: 1) Design and implement a cost system for base level activities performing organizational and intermediate maintenance; 2) permit consolidation of both depot and base level maintenance costs into one report showing total Air Force Maintenance costs, and 3) provide data for life cycle costing. There are other objectives not mentioned here that are outlined in AFM 177-380 12.

The accuracy of the maintenance cost system is dependent on the accuracy of the various reports and systems that feed data to it. These include the General Accounting System, Maintenance Data Collection System (MDC), MMICS Administrative Subsystem/Exception Time Accounting System (ETA), MMICS Status Subsystem/Aerospace Vehicle Status Report (A1), Standard Base Level Supply System - U1050-II (SBSS), and input from the Base Engine Manager. Information from Civilian Accrued Annual Leave Cost Records and Maintenance Manhour Data Requirements from the Command Aircraft Maintenance Manpower Information System (CAMMIS) are also input to the MCS. Information from the above sources constitute the data contained in the various reports of the MCS. These organizational and intermediate maintenance cost reports of the MCS are:

1. Work Breakdown Structure (WBS) Within Model/Design/Series (MDS) Within Program Element Code (PEC).
2. NON-MDS by WBS.
3. Work Accomplishment Code (WAC) Within MDS Within PEC.
4. NON-MDS by WAC.
5. By Indirect Productive Labor.

6. By Indirect Non-Productive Labor.
7. By Material Category.
8. By Customer.

The prime office of responsibility is the Air Force Finance Center, (AFAFC/XSM). Since this is a comparatively new system, efforts are presently being made to debug, purify and consolidate fleet wide data. As a result of being a newly developed system the only information that was usable in this study was discussed in the Material Resources area. It is felt that because of the objectives of this new system this detail discussion is appropriate, as the MCS could become a valuable cost data source for future studies.

APPENDIX I
RELIABILITY SUMMARIES

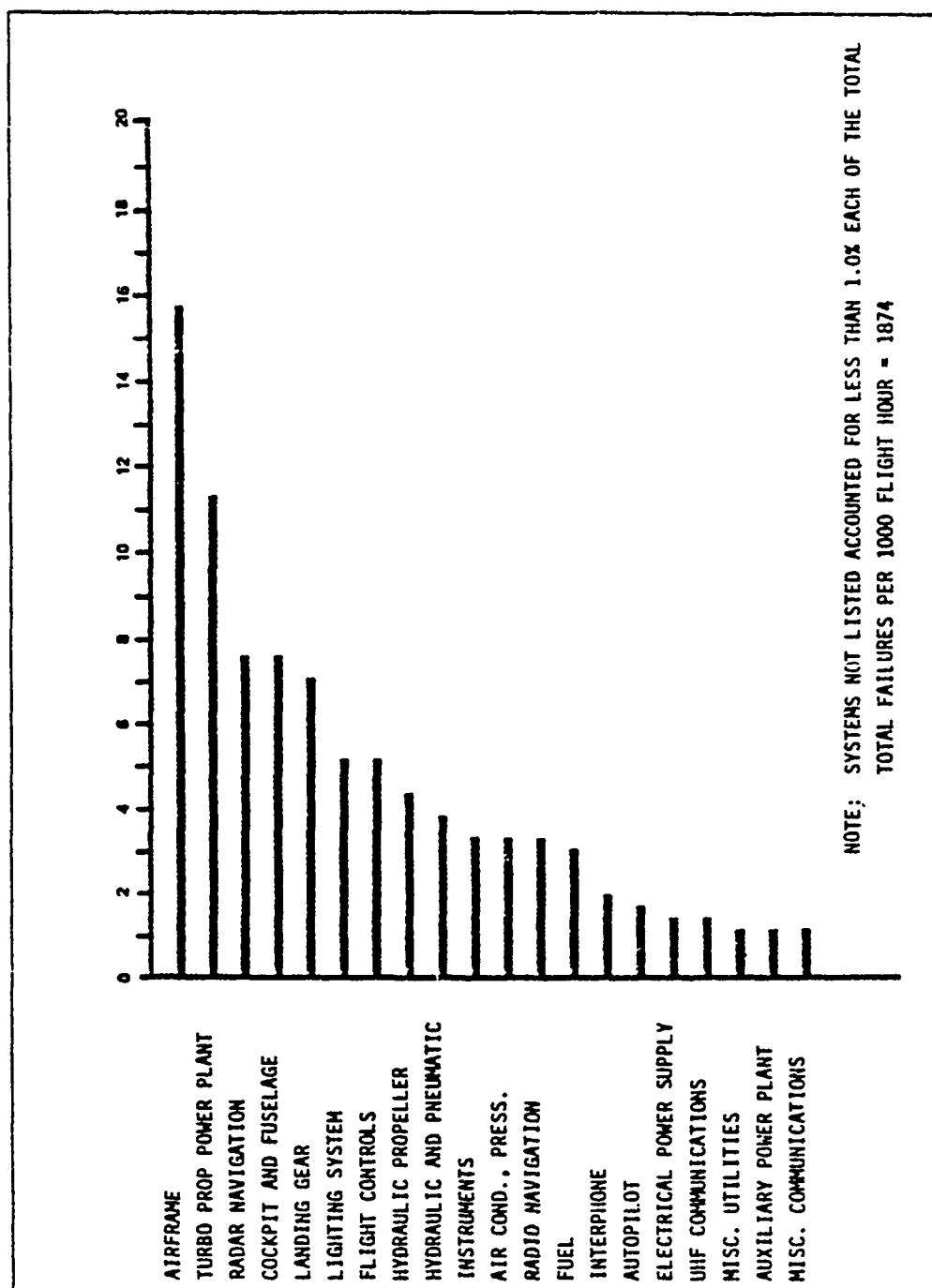


FIGURE I-1 C-130E PERCENT DISTRIBUTION OF ORGANIZATIONAL AND INTERMEDIATE COMPONENT FAILURES
(15 YEAR AVERAGE 1962-1976)

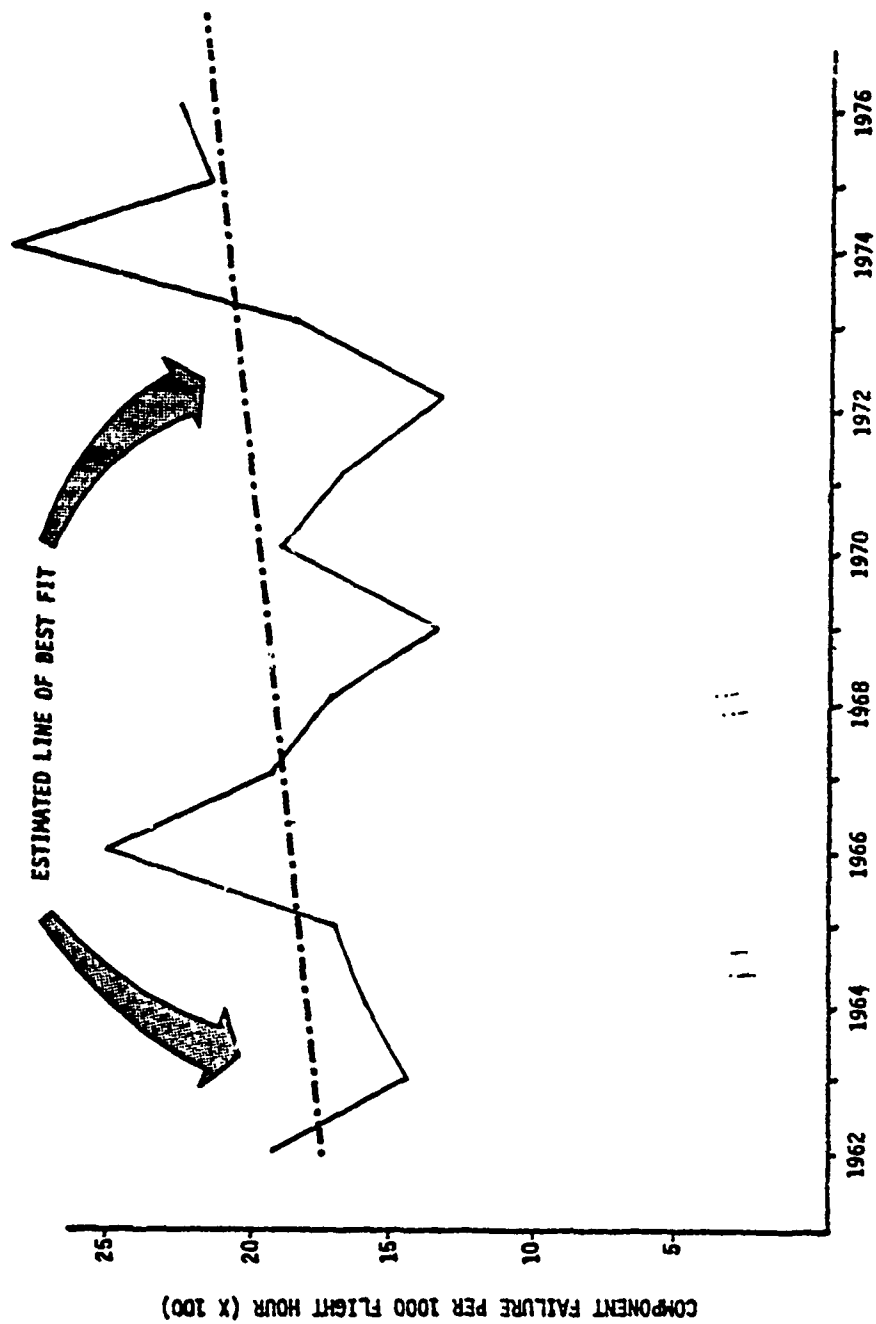


FIGURE I-2 C-130E ORGANIZATIONAL AND INTERMEDIATE COMPONENT FAILURES PER 1000 FLIGHT HOURS VS YEAR OF OPERATION

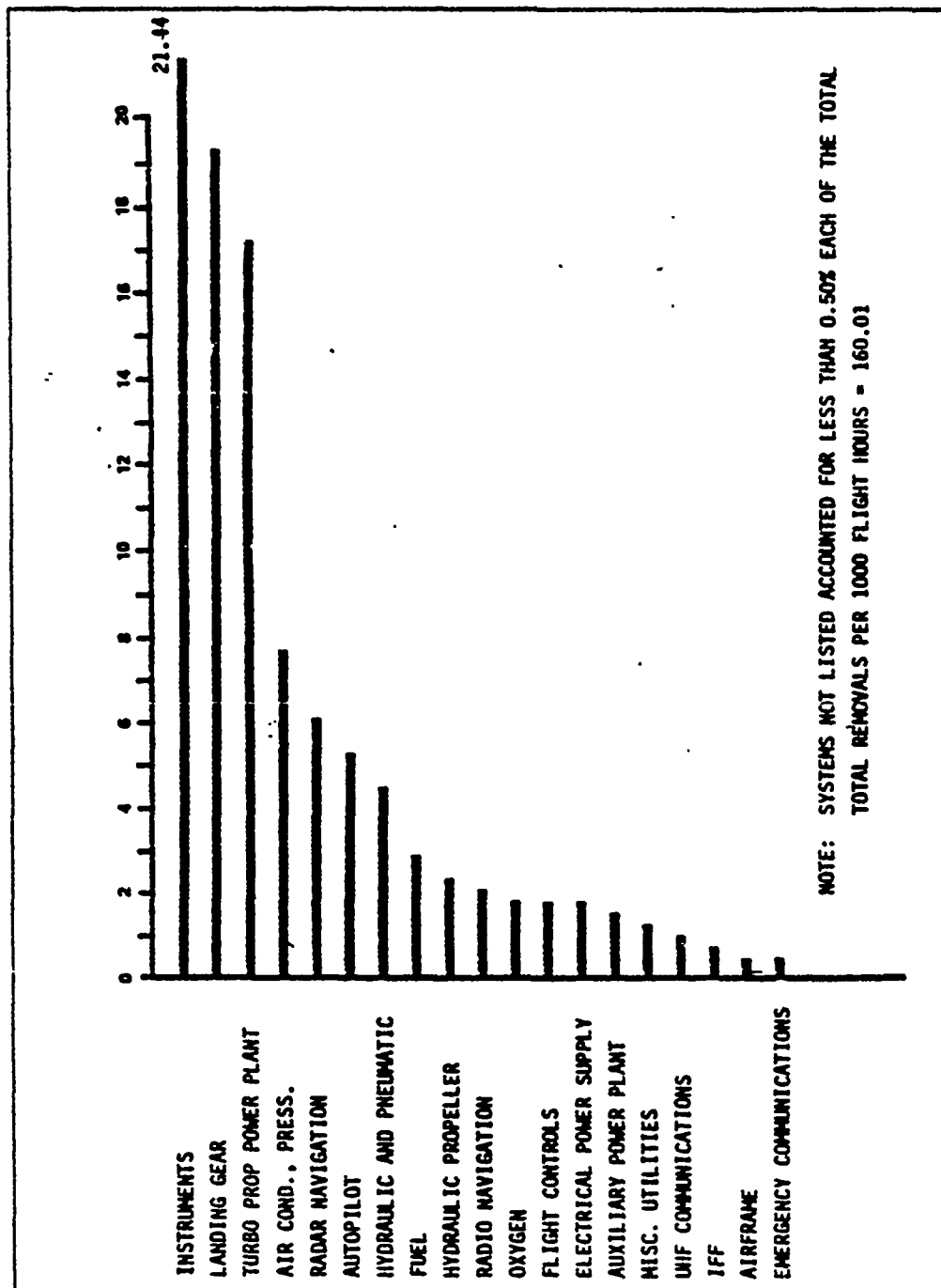


FIGURE 1-3 C-130E PERCENT DISTRIBUTION OF COMPONENTS REPAIRED OFF BASE
(15 YEAR AVERAGE 1962-1976)

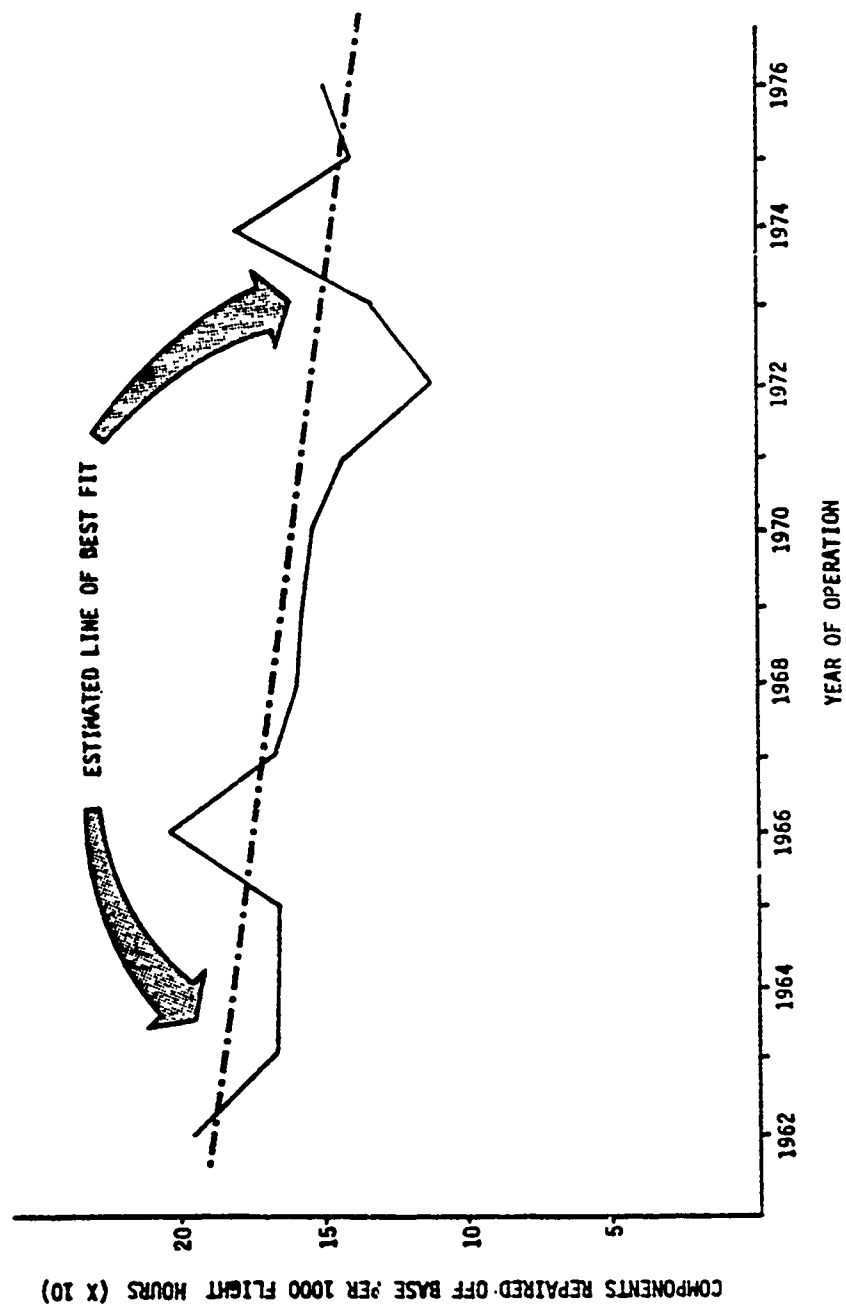


FIGURE I-4 C-130E COMPONENTS REPAIR OFF BASE PER 1000 FLIGHT HOURS VS YEAR OF OPERATION

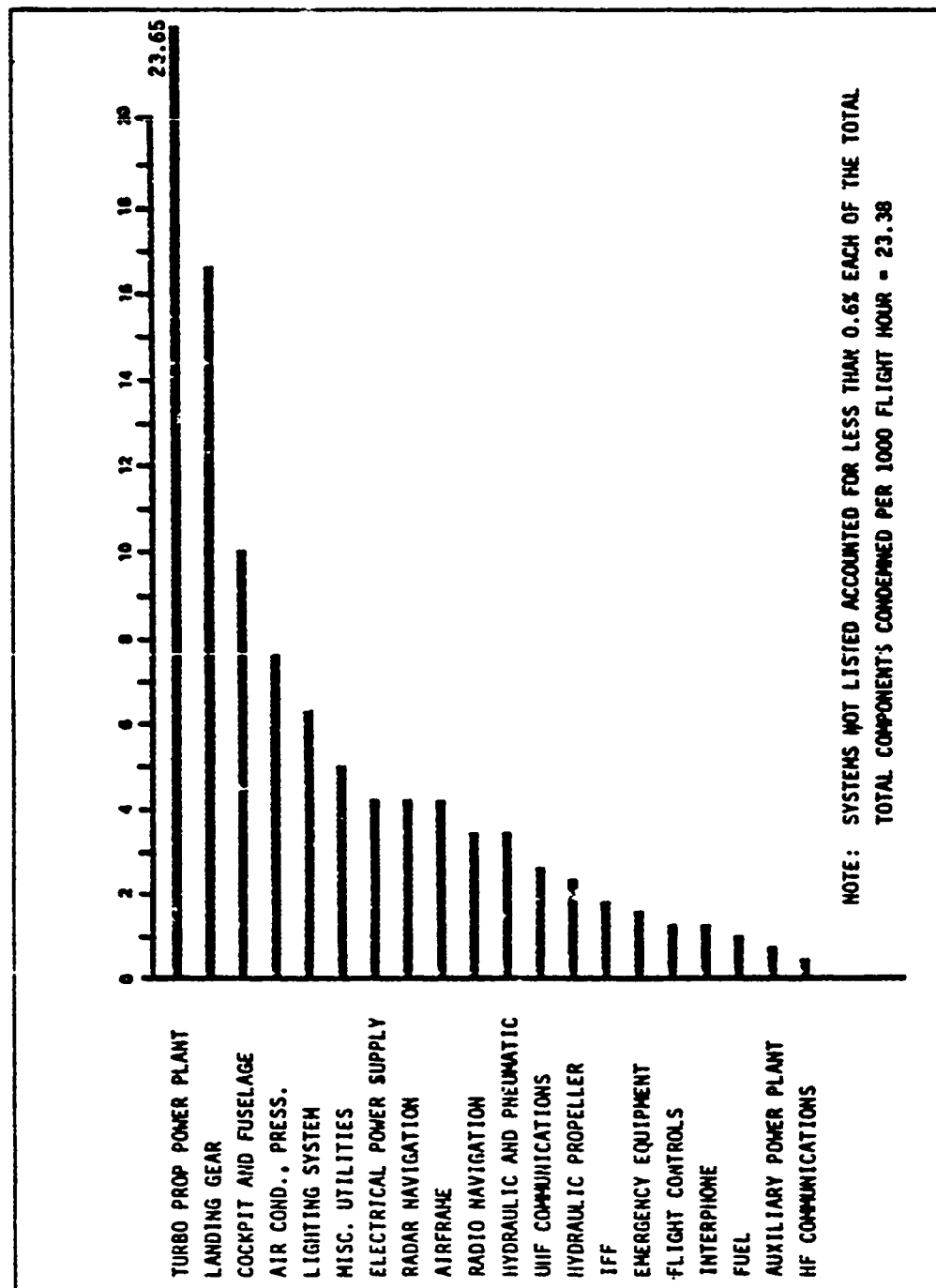


FIGURE 1-5 C-130E PERCENT DISTRIBUTION OF COMPONENTS CONDEMNED
(15 YEAR AVERAGE 1962-1976)

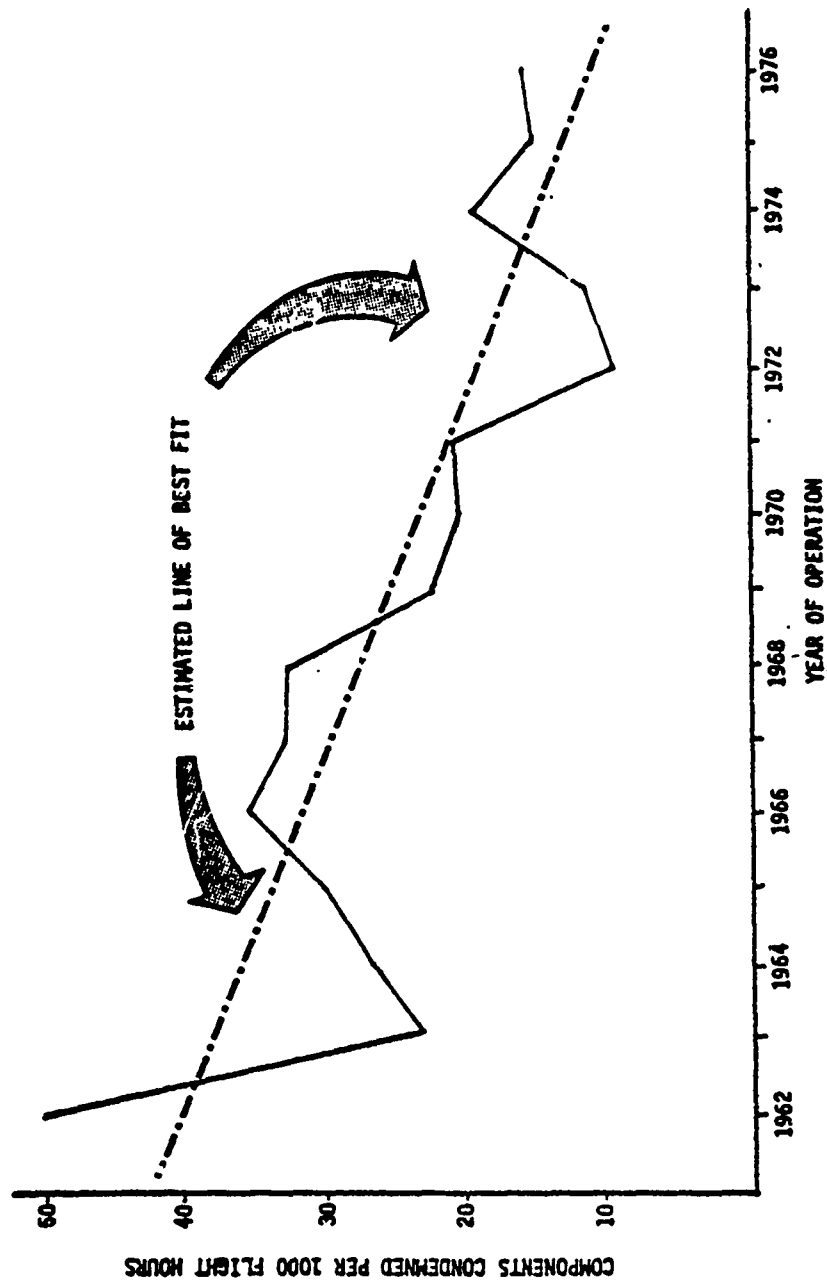


FIGURE 1-6 C-130E COMPONENTS CONDEMNED PER 1000 FLIGHT HOURS
VS YEAR OF OPERATION

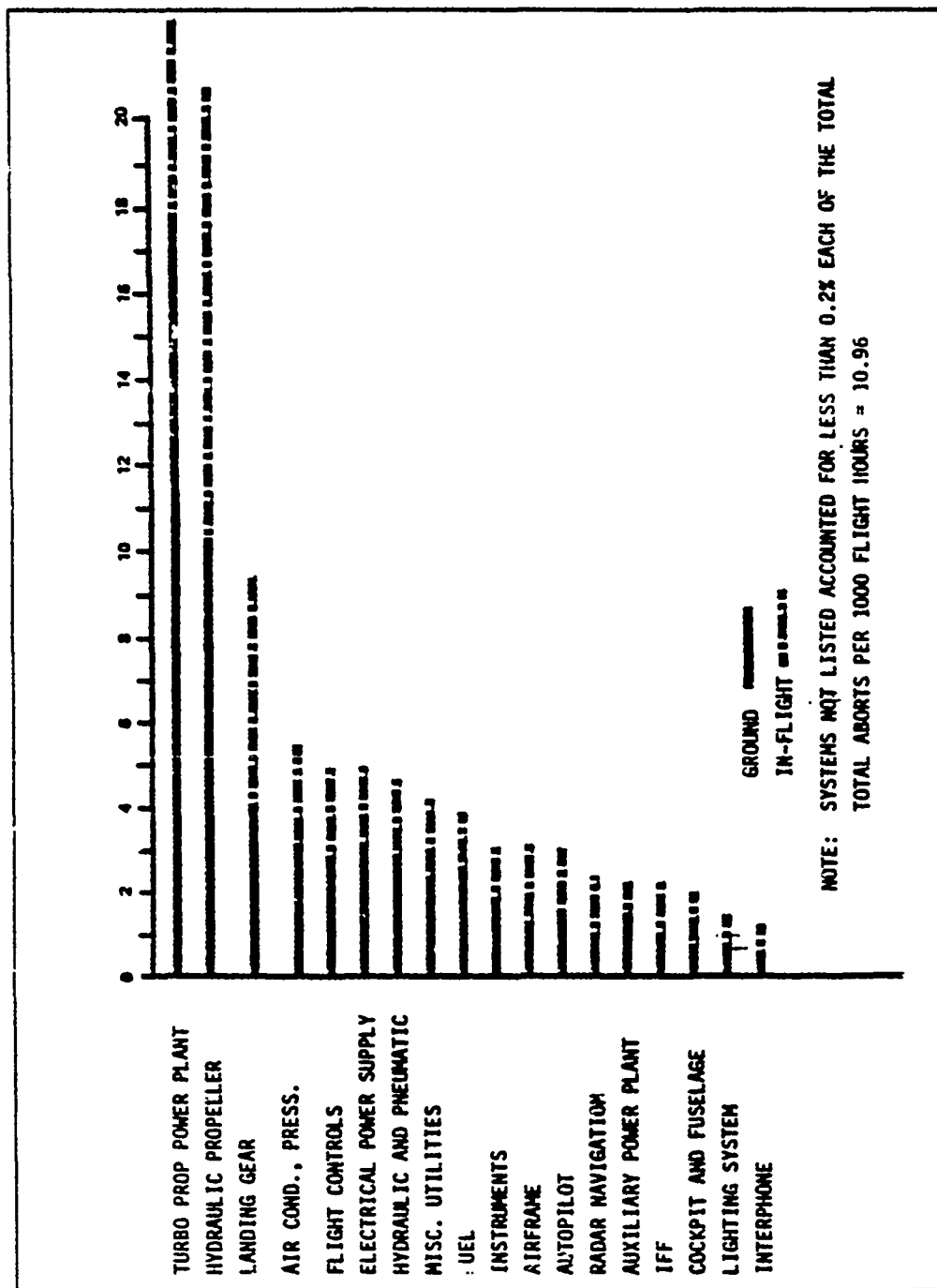


FIGURE 1-7 C-130E PERCENT DISTRIBUTION OF MATERIAL ABORTS (GROUND AND FLIGHT)
(15 YEAR AVERAGE 1962-1976)

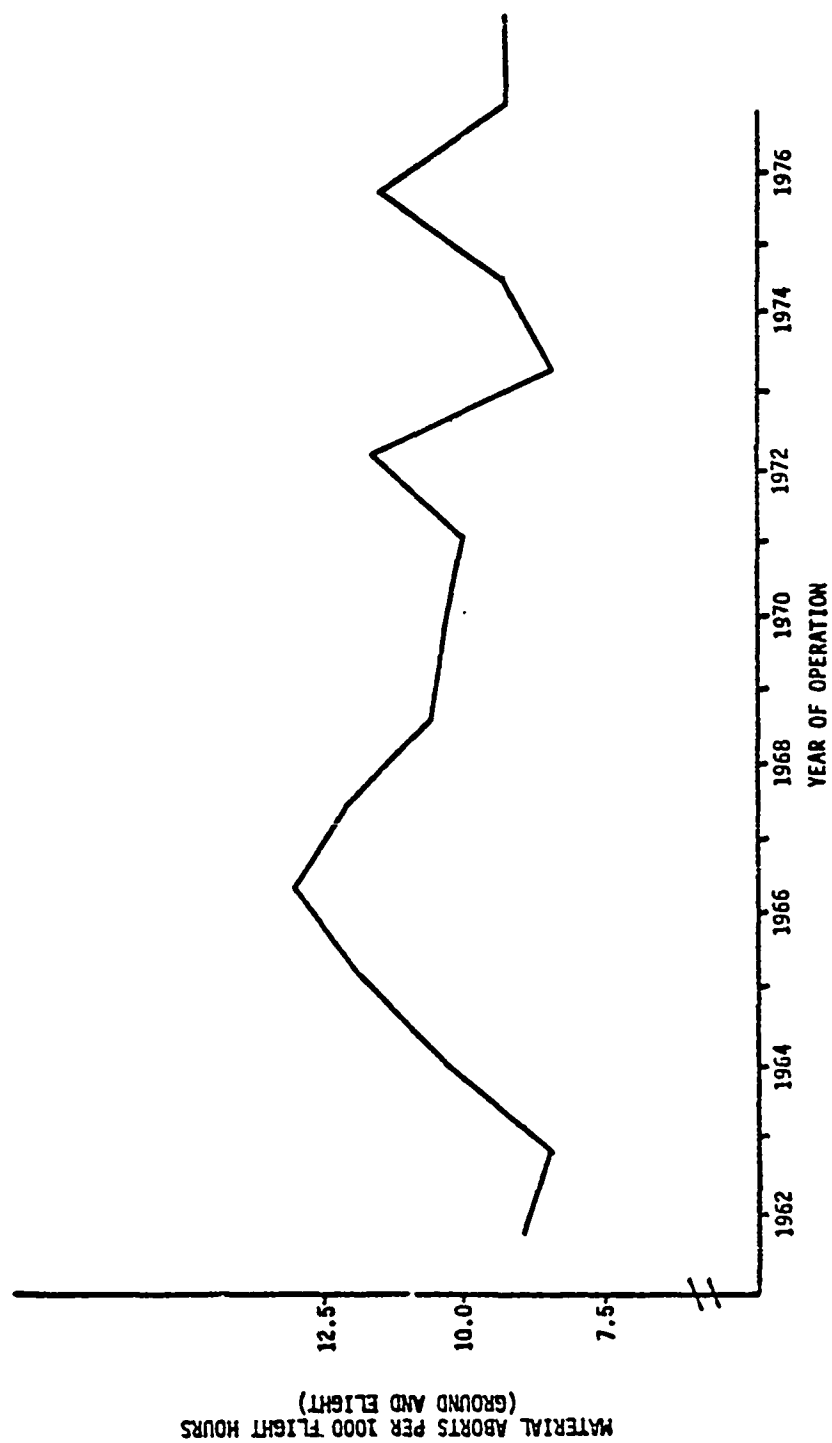


FIGURE I-8 C-130E MATERIAL ABORTS (GROUND AND FLIGHT) PER 1000 FLIGHT HOURS VS YEAR OF OPERATION

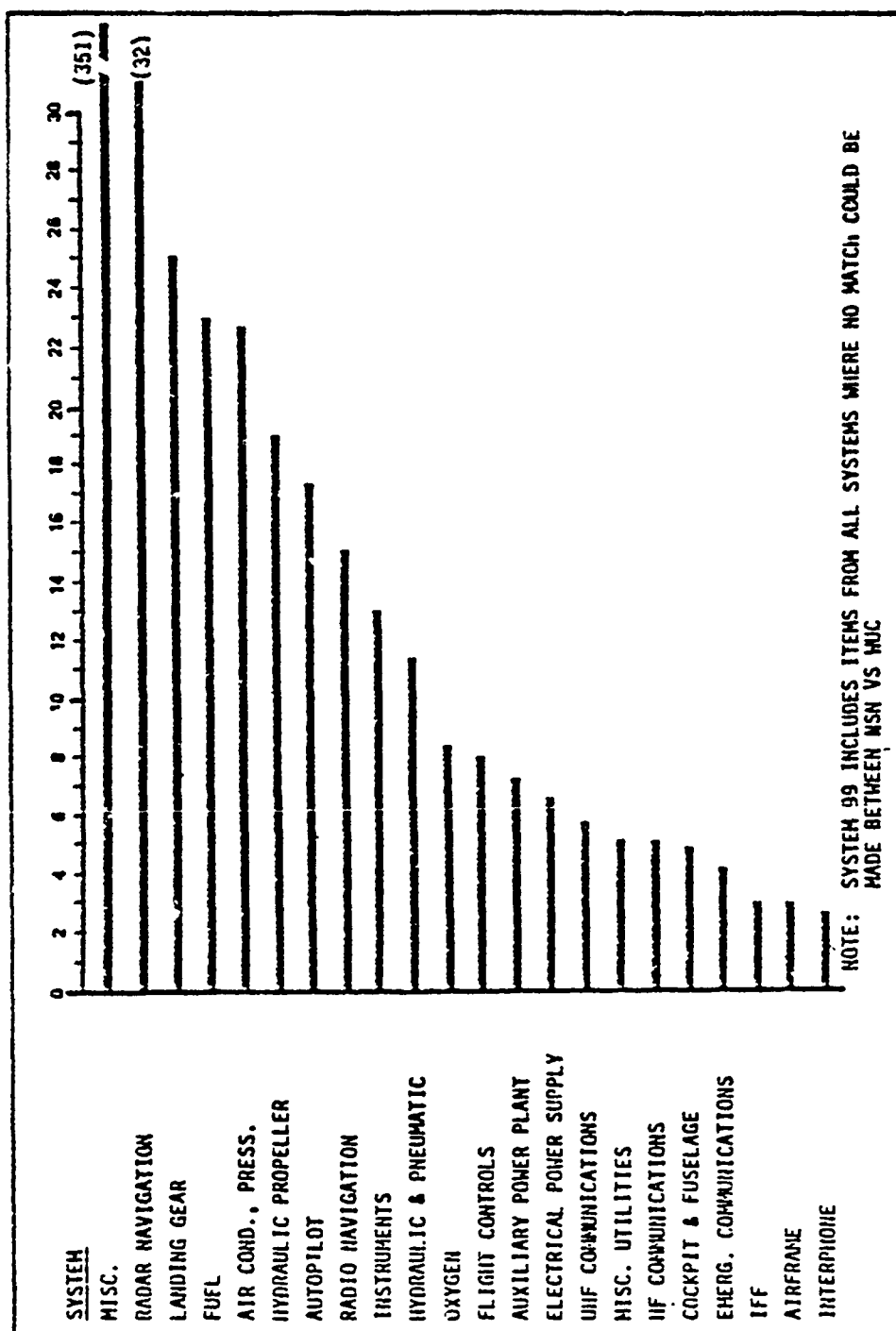


FIGURE I-9 C-130E DEPOT MAINTENANCE REPAIR TASKS/1000 FH BY SYSTEM
(EXCLUDING ENGINES) FY 75-76

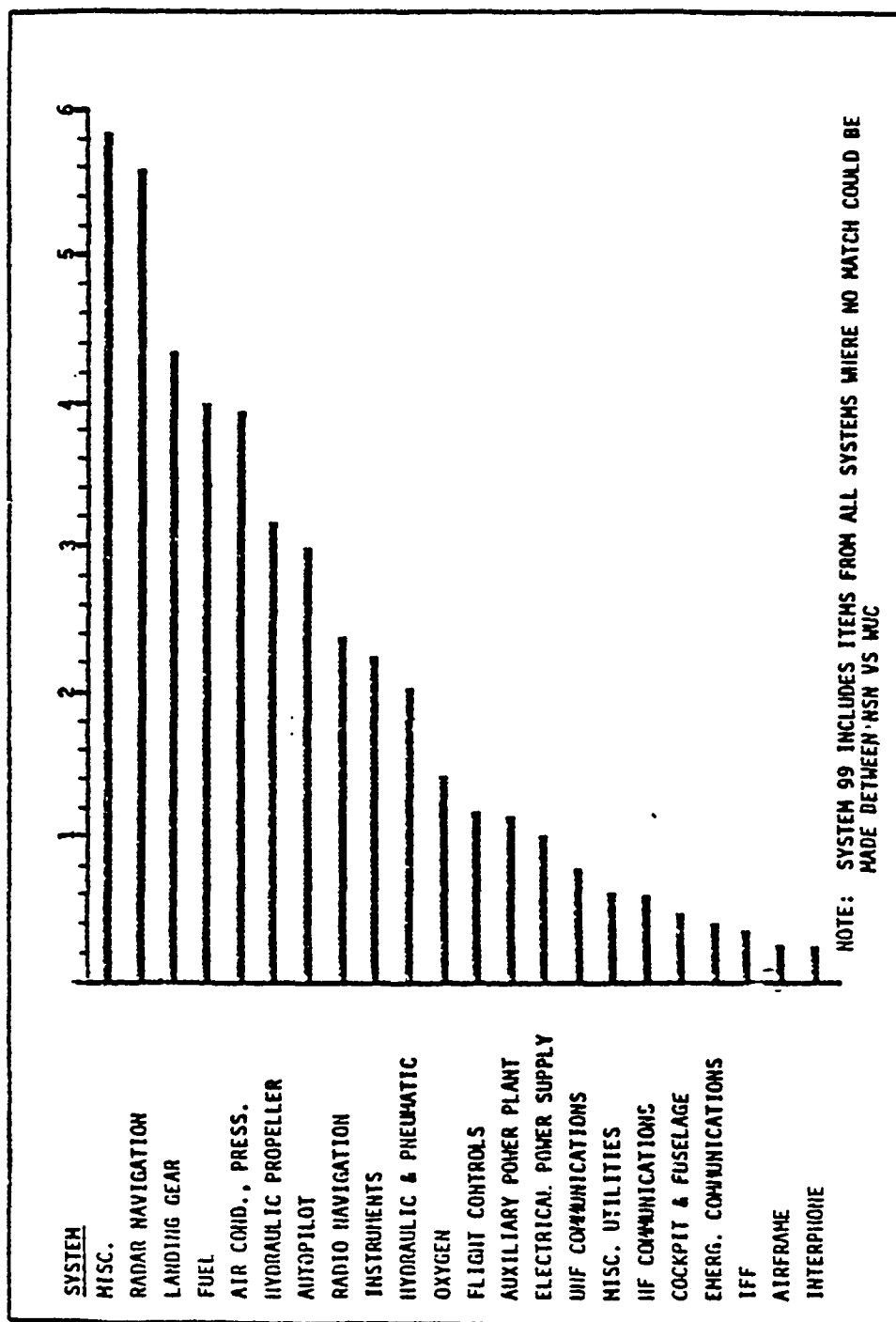


FIGURE I-10 C-130E PERCENT OF TOTAL DEPOT MAINTENANCE REPAIR TASKS BY AIRCRAFT SYSTEM (EXCLUDING ENGINES) FY 75-76